78

SERVICE MANUAL

SANYO

STEREO CASSETTE
TAPE DECK

RD 30
EUROPE

SANYO
STEREO CASSETTE DECK RD 30
COUNTER
RESET
FULL AUTO STOP
DOLBY SYSTEM
VU
VU
INPUT LEVEL
MIC
LEFT
RIGHT

141 875 04

SPECIFICATIONS

Power Source	AC 120/220V (50/60Hz)
Power Consumption	18W
Recording System	AC Bias
Erasing System	AC Erasing
Tape Speed	1-7/8ips. ±1.5%
Wow & Flutter	0.08% WRMS
Fast Forward/Rewind Time	100sec. (C-60 cassette)
Frequency Response (Overall, DOLBY: OFF)	
Fe2O3 (7dB band)	30 – 12.5kHz
FeCr/CrO2 (7dB band)	30 – 14kHz
Signal to Noise Ratio (According to CCIR method: Weighted, DOLBY: ON)	
Fe2O3	58dB
FeCr/CrO2	60dB
Signal to Noise Ratio (According to CCIR method: Weighted, DOLBY: OFF)	
Fe2O3	50dB
FeCr/CrO2	52dB
Erase Ratio (Overall)	
Fe2O3	64dB
FeCr/CrO2	66dB
Crosstalk (with Fe2O3)	
Track to Track	70dB
Channel Separation (with Fe2O3)	40dB
Harmonic Distortion (K3)	
Fe2O3/FeCr	1.2%
CrO2	1.8%
Input Sensitivity and Impedance	
Microphone	0.3mV/8.6k-ohm
LINE IN	100mV/100k-ohm
DIN INPUT	1mV/10k-ohm
Output Level and Impedance	
LINE OUT	100mV/5.9k-ohm
DIN OUTPUT	1,200mV/11.5k-ohm
Headphone	30mV/1k-ohm
Oscillation Frequency	85kHz
Dimensions (W x H x D)	420 x 145 x 315mm
Weight	6kg

—Specifications subject to change without notice.—

WM-4286

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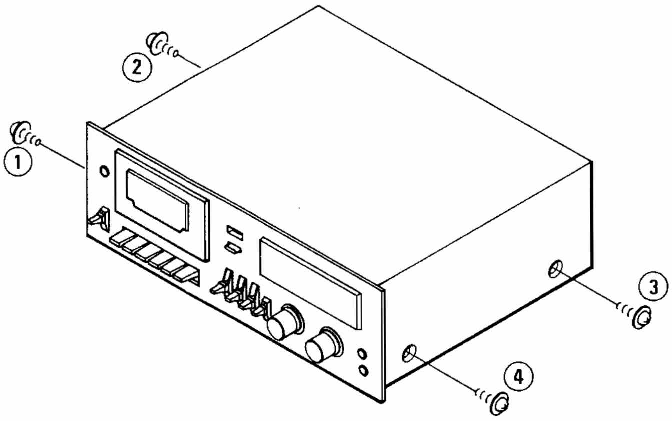
DISASSEMBLY INSTRUCTIONS

COVER REMOVAL

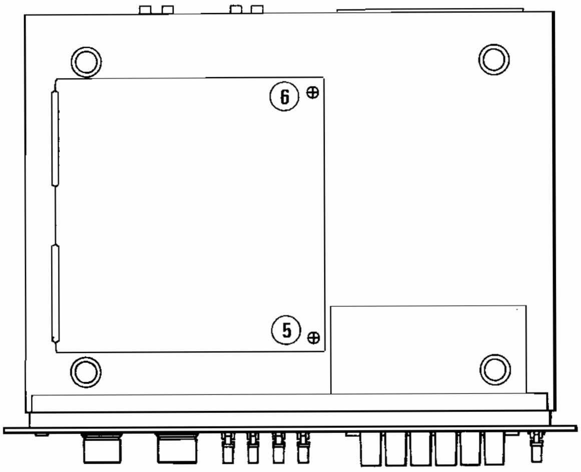
1. Remove the four screws (1 – 4) fastening the Cover.



2. Remove the Cover by lifting it.
3. Reassemble in reverse order.

PANEL SHEET REMOVAL

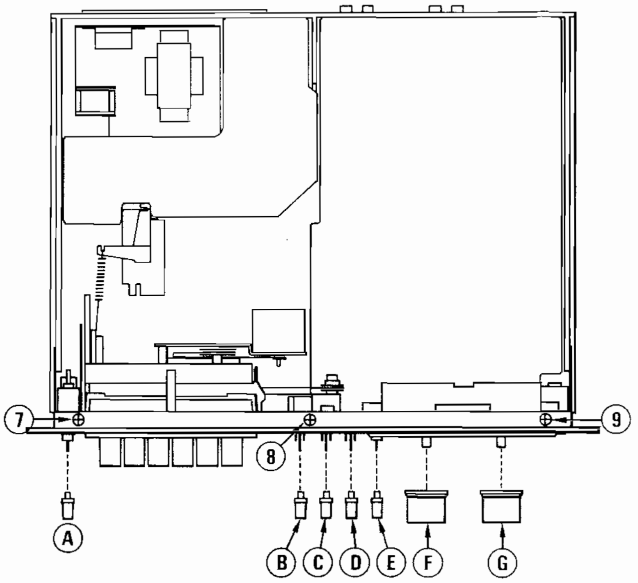
1. Turn unit over on a clean soft surface.
2. Detach the Panel Sheet by removing the two screws (5 and 6) fastening it.



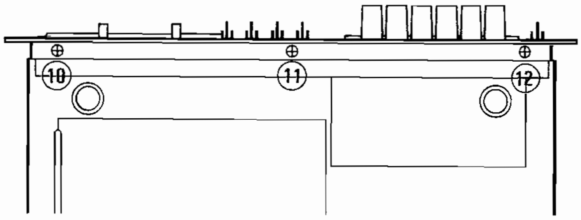
3. Reassemble in reverse order.

FRONT PANEL REMOVAL

1. Remove the Cover by following the instructions for it.
2. Open the cassette compartment lid by pressing the Stop/Eject button and remove the cassette compartment lid from the unit. Then, colse the cassette holder.
3. Pull out the five Knobs (A – E) of the Switches, and two Knobs (F and G) of the Input Level Control.
4. Unscrew the three screws (7 – 9) fastening the upper side of the Front Panel and turn unit over.



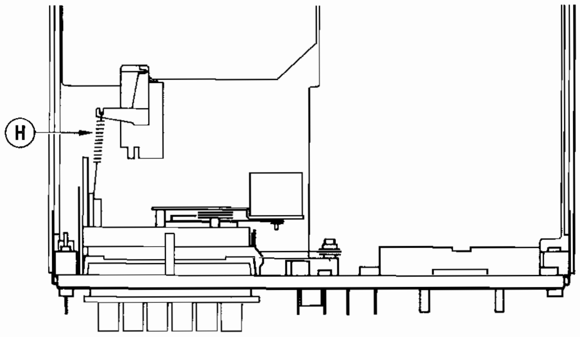
5. Remove the three screws (10 – 12) fastening the lower side of the Front Panel. Then, place the unit in an upright position and carefully remove the Front Panel from the unit.



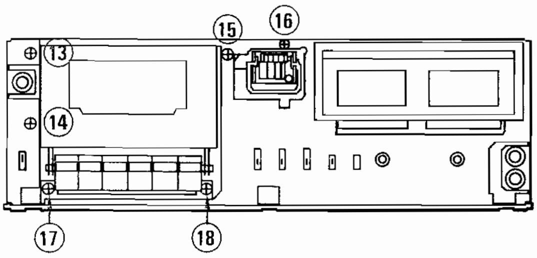
6. Reassemble in reverse order.

MECHANISM CHASSIS REMOVAL

1. Remove the Cover and Front Panel by following the instructions for them.
2. Remove the six screws (13 – 18) fastening the Chassis and unhook the Record Spring (H) from the Record Lever.



DISASSEMBLY INSTRUCTIONS (Continued)



3. Then, remove the Chassis from the unit by carefully lifting it.

4. Reassemble in reverse order.

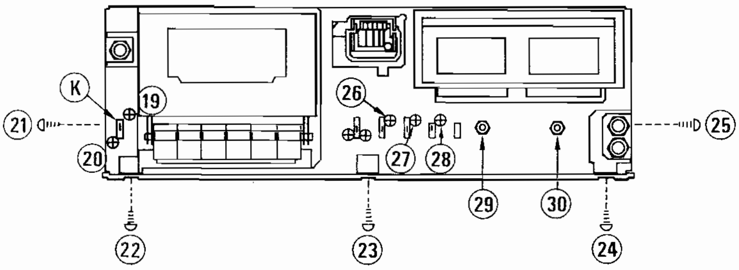
PANEL CHASSIS REMOVAL

1. Remove the Cover and Front Panel by following the instructions for them.

2. Unsolder the four lead wires of the Meters and the two lead wires of Lamp P.C.Board from the Amplifier P.C.Board. Take out the flexible wire (I) from the Switch Lever (J).

3. Detach the Power Switch (K) by removing the two Screws (19 – 20).

4. Remove the five screws (21 – 25) fastening the Panel Chassis and the three screws (26 – 28) holding the Switches. Then, remove the two nuts (30 and 31) holding the Input Level Control.



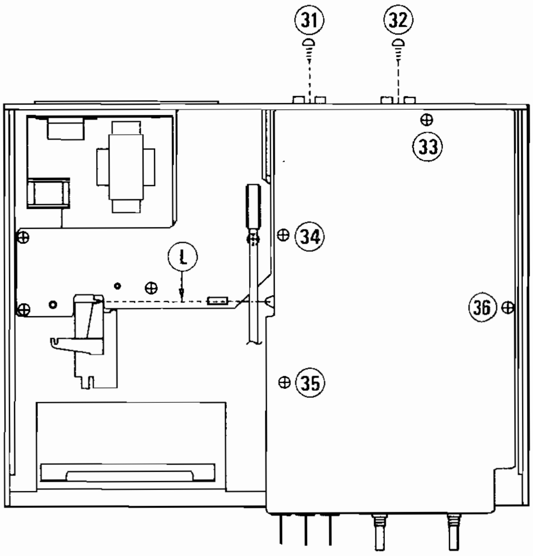
5. Then, remove the Panel Chassis from the unit.

6. Reassemble in reverse order.

AMPLIFIER P.C.BOARD REMOVAL

1. Remove the Panel Chassis by following the instructions for it.

2. Remove the two black screws (31 and 32) from the rear of the Cabinet Chassis and the four screws (33 – 36) fastening the P.C.Board and unhook the Record Wire (L) from the Record Lever.



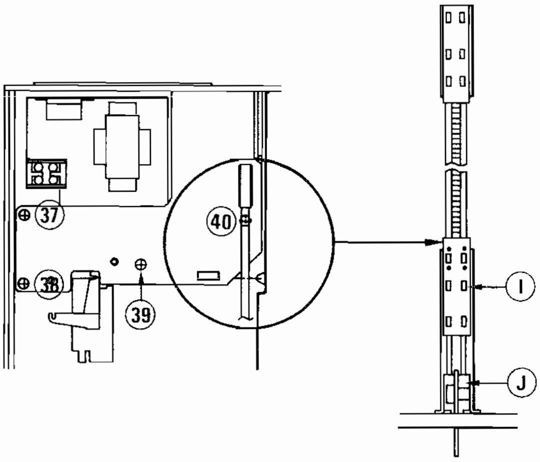
3. Carefully remove the P.C.Board by lifting it.

4. Reassemble in reverse order.

POWER SUPPLY P.C.BOARD ASSEMBLY REMOVAL

1. Remove the Cover by following the instructions for it.

2. Take out the flexible wire (I) from the Bias Switch.



3. Unscrew the four screws (37 – 40) fastening the P.C.Board and remove the P.C.Board by lifting it.

4. Reassemble in reverse order.

MECHANICAL ADJUSTMENTS

REQUIRED EQUIPMENT

- Fan-shaped Tension Gauge (500g maximum)
- Cassette-type Torque Meter (100g maximum)
- Thickness Gauge
- Cassette Tape (C-120)
- Silicone Grease (Example: SHIN-ETSU SILICONE KS-64)
- Paint or Glue

GENERAL REMARKS

- Before adjusting the mechanism of the unit, clean the tape contacting surfaces with a soft cloth soaked in alcohol. Trouble may occur because of oil and grease stains.

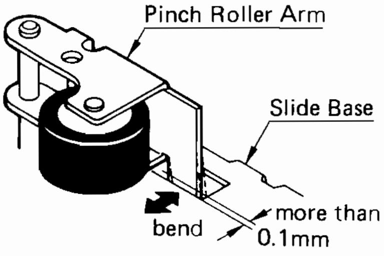
- The Belts must be kept clean while the adjustments are performed.
  - * Silicone grease (Example: SHIN-ETSU SILICONE KS-64) is applied to the Drive Belt and the Take-up Belt to protect them from abrasion. If necessary, apply a proper amount of silicone grease (Example: SHIN-ETSU SILICONE KS-64) to each groove of the Flywheel and Friction assemblies.

  NOTE:
  Silicone grease is not applied to the Replacement Parts.

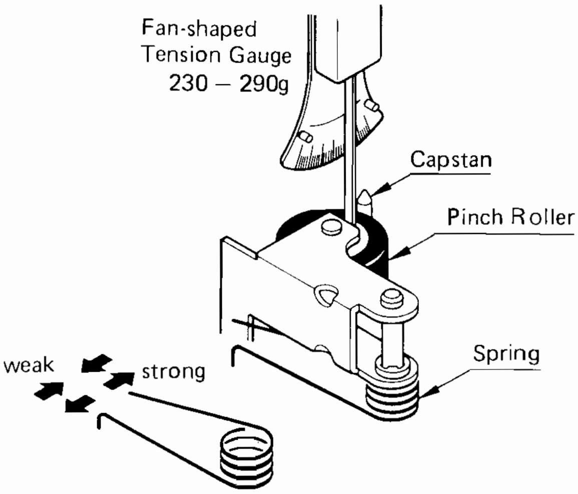
- **Never apply grease or oil to the ASO Belt. If applied, wipe it clean with benzine.**

PINCH ROLLER ADJUSTMENT

1. Set the unit in the playback mode and check to see that the clearance between the Pinch Roller Arm and the Slide Base is 0.1mm, and that the Take-up Reel Gear rotates before the Pinch Roller starts rotating as the PLAY button is gradually pressed.
   * If necessary, adjust the clearance by carefully bending the Pinch Roller Arm as illustrated.
   Do not excessively bend it.



2. Measure the pinch roller pressure with a fan-shaped tension gauge (500g) with the unit in the playback mode as follows:
   * Hook the fan-shaped tension gauge to the Pinch Roller as illustrated and pull it away from the Capstan. Then, slowly bring the Pinch Roller close to the Capstan.



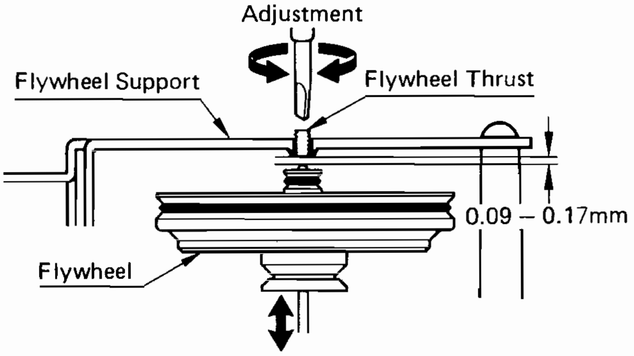
* Measure the pressure the moment the Pinch Roller comes in contact with the Capstan and starts rotating. It should be 230 – 290g.

* If necessary, change the pressure by bending the Spring or replace the Spring with a new one.

3. Check the Pinch Roller. If it has a defective rubber surface, replace it with a new one.

FLYWHEEL THRUST ADJUSTMENT

Check to see that the clearance between the Flywheel Thrust and Flywheel is 0.09 – 0.17mm with the chassis upside down as illustrated. If necessary, adjust the clearance by the following procedure.



1. While moving the Capstan up and down, slowly turn the Flywheel Thrust clockwise to obtain the clearance of "0" between the Thrust and the Flywheel.

   NOTE:
   Do not turn the Flywheel Thrust forcibly.

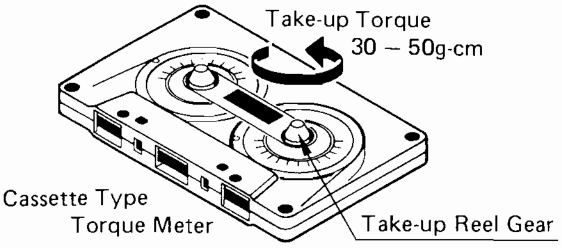
2. Turn the Thurst counter-clockwise by 45° – 90° from the position.

3. After the adjustment, secure the Flywheel Thrust with paint or glue.

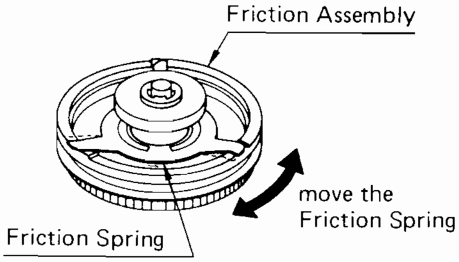
MECHANICAL ADJUSTMENTS (Continued)

TAKE-UP TORQUE ADJUSTMENT

1. Insert the cassette-type torque meter into the unit and measure the torque of the Take-up Reel Gear with the unit in the playback mode. It should be 30 – 50g-cm.


Take-up Torque
30 – 50g-cm
Cassette Type
Torque Meter
Take-up Reel Gear

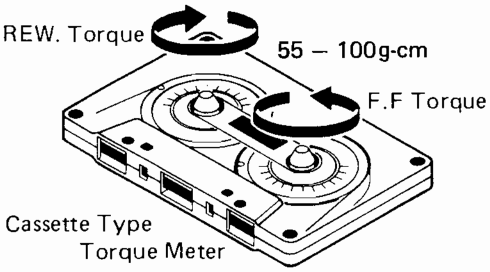
2. If necessary, adjust the torque by moving the Friction Spring of the Friction Assembly as illustrated.


Friction Assembly
move the
Friction Spring
Friction Spring

NOTE:
If the Take-up Reel Gear and the Take-up Gear run idle and produce an abnormal sound, adjust the take-up torque as low as possible.

FAST FORWARD & REWIND TORQUE

1. The fast forward and rewind torque value measured by the cassette type-torque meter should be 55 – 100g-cm.


REW. Torque
55 – 100g-cm
F.F Torque
Cassette Type
Torque Meter

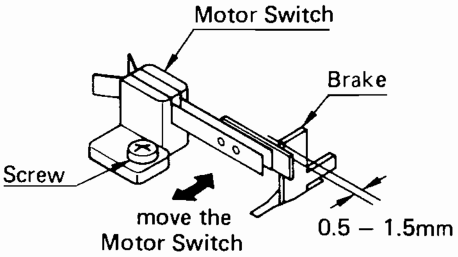
NOTE:
Read the torque values on the torque meter just before the unit automatically shuts off.

2. If the torque value is more than 100g-cm, apply a proper amount of silicone grease (Example: SHIN-ETSU SILICONE KS-64) to the groove of the Friction Assembly.

3. If the torque value is less than 55g-cm, replace the Take-up Belt with a new one.

MOTOR SWITCH ADJUSTMENT

1. Set the unit in the stop mode and check to see that the clearance between the Motor Switch and the Brake is 0.1 – 1.5mm as illustrated, and that the Motor Switch is turned on by pressing one of the Select Buttons (PLAY, FF, or REW).

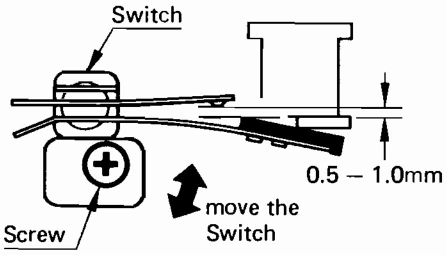

Motor Switch
Brake
Screw
move the
Motor Switch
0.5 – 1.5mm

2. If necessary, loosen the screw fastening the Motor Switch and shift the Switch to the specified position.

3. After the adjustment, tighten the screw and secure it with paint or glue.

MUTING SWITCH ADJUSTMENT

1. This Switch is normally colsed. Check to see that the clearance between the both contacts of the switch is 0.5 – 1.0mm with the PLAY button down as illustrated.


Switch
0.5 – 1.0mm
move the
Switch
Screw

2. If necessary, loosen the screw fastening the Switch and move the Switch to the specified position.

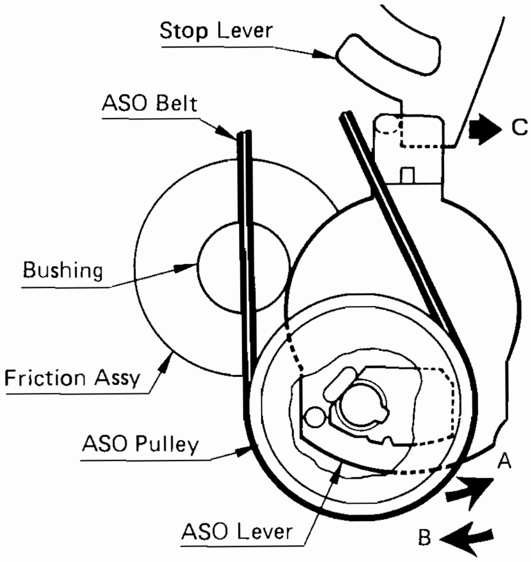
3. After the adjustment, tighten the screw and secure it with paint or glue.

MECHANICAL ADJUSTMENTS (Continued)

AUTO SHUT-OFF MECHANISM

FUNCTION

1. Silicone grease (Example: SHIN-ETSU SILICONE KS-64) is applied to the contacting surfaces of the Bushing and the ASO Lever, and the teeth of the ASO Lever to make the Auto Shut-off mechanism function smoothly.
   If necessary, apply a proper amount of silicone grease to them.
2. The ASO Lever is ordinarily pressed to the Bushing of the Friction Assembly by the spring and moves in the direction of arrow A in accordance with the bushing rotation.
3. The shaft of the ASO Pulley is elliptical in shape like a cam as illustrated and moves the ASO Lever in the direction of arrow B according to the rotation of the ASO Pulley.
4. The teeth of the ASO Pulley and ASO Lever do not mesh and the shaft moves the ASO Lever back and forth by the above described movements (A and B).
5. When the tape is completely wound to the end, the bushing rotation stops, so that the ASO Lever is moved in the direction of arrow B by the ASO Pulley and it stops moving.
6. While the ASO Pulley is rotating, its tooth is engaged with the first tooth of the ASO Lever and it moves the ASO Lever in the direction of arrow C. Then, the tooth of the ASO Pulley is disengaged from the tooth of the ASO Lever.
7. The ASO Pulley continues rotating, so that its tooth meshes with the second tooth of the ASO Lever and it moves the ASO Lever in the direction of arrow C again.
8. Then, the ASO Lever pushes the Stop Lever in the direction of arrow C, so that the unit is set in the stop mode.



If there is a problem with the the Auto Shut-off mechanism, repair it referring to the following troubleshooting.

SYMPTOM	POSSIBLE CAUSE		REMEDY
ASO mechanism does not work properly.	ASO Spring is unhooked		Repair.
	Grease is not applied suficiently to the circumference of the Bushing or is not applied at all.		Apply grease.
	ASO Lever does not move properly.	Shaft of ASO Lever is clogged by grease or dust.	Remove grease or dust by wiping Shaft of ASO Lever with alcohol.
ASO mechanism does not work at all.	ASO Lever is in contact with Take-up Pulley of Friction Assembly.		Insert the washer below the E ring of the Bushing and keep the clearance between the E ring and the Bushing less than 0.5mm.
	ASO Belt is worn out.		Replace ASO Belt.
	ASO Belt is stained.		Wipe ASO Belt with benzine.

NOTE:
Although there is a case that the button is not locked by pressing one of the Select Buttons (PLAY, FF, or REW) without Power supplied to the unit after the unit has automatically shut off, this symptom is not a mulfunction.

ELECTRICAL ADJUSTMENTS

REQUIRED EQUIPMENTS

- VTVM (2 Sets)
- Frequency Counter
- Audio Signal Generator
- Attenuator
- Dummy Load (47k-ohm)
- Dualtrace Synchroscope
- Test Tapes
  - * 3kHz test tape (Example: TEAC MTT-111) for Tape Speed Adjustment
  - * 10kHz test tape (Example: TEAC MTT-114) for Head Azimuth Adjustment
  - * Test Tape for Dolby Level Calibration (Example: TEAC MTT-150 in Playback Gain Adjustment
- Test Tapes for recording and playback operations
  - * Normal Tape (Example: TDK AC-220)
  - * Ferrichromium Tape (Example: SONY DUAD C-60)
  - * Chromium Dioxide Tape (Example: TDK AC-511)
- Alignment Tool

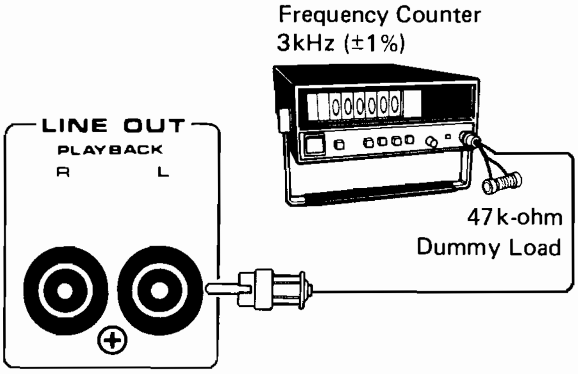
Prior to the Electrical Adjustments, set the unit and the measuring instruments as follows:

- Bias Switch . . . . NORM
- EQ Switch . . . . NORM
- Input Select Switch . . . . LINE
- Dolby NR Switch . . . . OFF
- Record Mute Switch . . . . OFF
- Input Level Control . . . . Maximum
- Audio Signal Generator output . . . . 1 kHz 0 dB, 1 V

NOTE:
The Electrical Adjustments should be preformed in the order as below.

TAPE SPEED ADJUSTMENT

1. Remove the Cover from the unit and connect a frequency counter to the left or right channel LINE OUT as illustrated. Then, insert a 3kHz test tape (Example: TEAC MTT-111) into the cassette compartment.

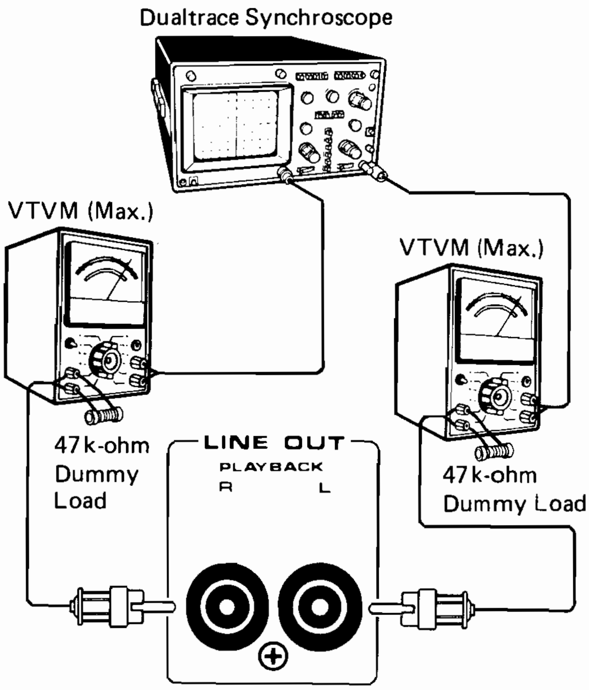


2. While the test tape is being played back, adjust the potentiometer inside the Motor by turning it until the frequency counter reads 3kHz (±1%).

HEAD AZIMUTH ADJUSTMENT

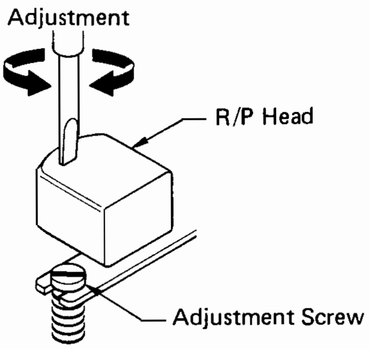
1. Remove the cassette compartment lid from the unit and connect a dualtrace synchroscope and two VTVM to the both channel LINE OUT as illustrated. Then, set the synchroscope as follows:
   - * MODE . . . . CHOP (chopped)
   - * SOURCE . . . . INT (internal), CH1 or CH2
   - * SWEEP MODE . . . . AUTO (automatic)

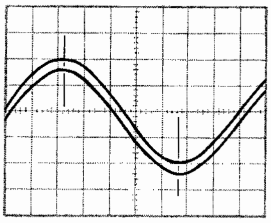
NOTE:
Adjust the field on the synchroscope with the VOLT. ADJ. and TIME ADJ.



2. Insert a 10kHz test tape (Example: TEAC MTT-114) into the cassette compartment and check to see that the phase difference of the Right and Left channels on the synchroscope while the test tape is being played back.

3. Then, turn the azimuth adjusting screw until the wave forms of the Right and Left channels are superimposed and set to optimum at maximum reading of the VTVM.





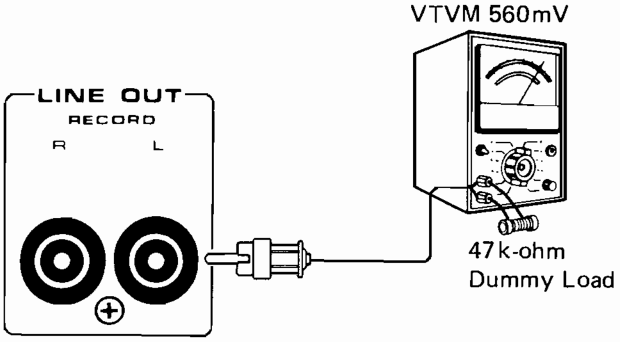
4. After the adjustment, secure the azimuth adjusting screw with paint or glue.

ELECTRICAL ADJUSTMENTS (Continued)

PLAYBACK OUTPUT LEVEL ADJUSTMENT

LEFT CHANNEL

1. Connect a VTVM to the left channel LINE OUT as illustrated. Then, insert test tape for the DOLBY Level Calibration (Example: TEAC MTT-150) into the cassette compartment.


VTVM 560mV
LINE OUT
RECORD
R
L
47k-ohm
Dummy Load

2. While playing back the test tape, adjust the potentiometer (P101) until the output level becomes 560mV on the VTVM.

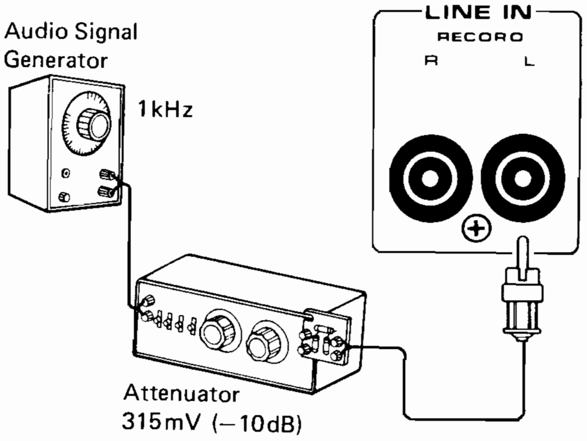
RIGHT CHANNEL

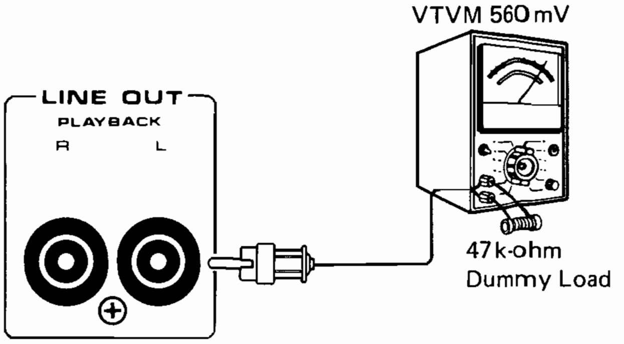
Connect a VTVM to the right channel LINE OUT. Then, adjust the potentiometer (P201) for the right channel by following the same procedure as for the left channel.

METER LEVEL ADJUSTMENT

LEFT CHANNEL

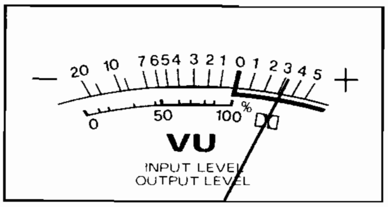
1. Connect an audio signal generator and an attenuator to the left channel LINE IN, and a VTVM to the left channel LINE OUT as illustrated. Then, insert a bulk-erased tape into the cassette compartment and set the unit in the recording mode.


Audio Signal
Generator
1kHz
LINE IN
RECORD
R
L
Attenuator
315mV (−10dB)


VTVM 560mV
LINE OUT
PLAYBACK
R
L
47k-ohm
Dummy Load

2. While feeding the 1kHz signal from the audio signal generator at 315mV (−10dB) to the unit, adjust the left channel INPUT Level Control until the VTVM reads 560mV.

3. Keeping the unit in the condition, adjust the potentiometer (P103) until the pointer of the left channel Meter swings to the DOLBY mark position as illustrated.


—
20
10
7 6 5 4 3 2 1 0 1 2 3 4 5
+
0
50
100 %
VU
INPUT LEVEL
OUTPUT LEVEL

RIGHT CHANNEL

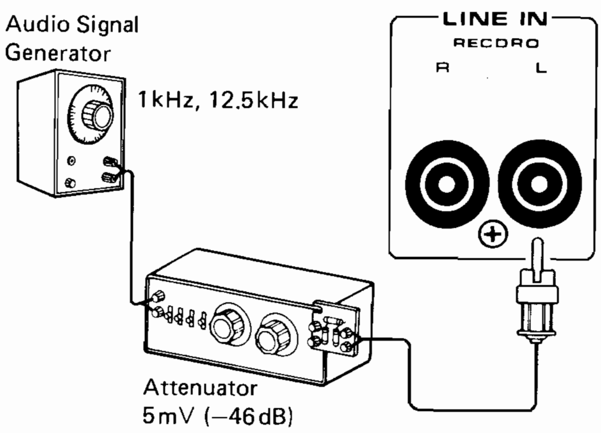
Connect an audio signal generator and an attenuator to the right channel LINE IN, and a VTVM to the right channel LINE OUT. Then, adjust the right channel INPUT Level Control and the potentiometer (P203) for the right channel by following the same procedure as for the left channel.

RECORD & PLAYBACK FREQUENCY RESPONSE ADJUSTMENT

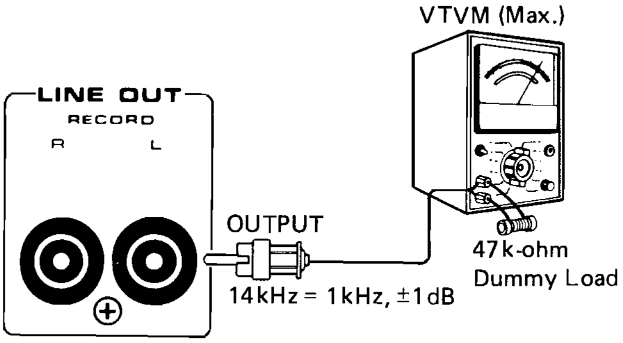
- **for Chromium Dioxide Tape**

LEFT CHANNEL

1. Connect an audio signal generator and an attenuator to the left channel LINE IN, and a VTVM to the left channel LINE OUT as illustrated. Then, insert a chromium dioxide tape (Example: TDK AC-221) into the cassette compartment.


Audio Signal
Generator
1kHz, 12.5kHz
LINE IN
RECORD
R
L
Attenuator
5mV (−46dB)

ELECTRICAL ADJUSTMENTS (Continued)



2. Set the Bias Switch and Equalizer Switch to CrO2. Alternately record 1kHz and 12.5kHz signals from the audio signal generator at 5mV (−46dB) on the tape several times.
3. While the recorded signals are being played back, check that 14kHz signal output is identical to 1kHz signal output or the deviation is ±1dB on the VTVM.
4. If not, adjust the potentiometer (P107) and re-check the output again after the recording and playback operations for the signals.
5. Repeat the above adjustment until the specified output is obtained.

RIGHT CHANNEL

Connect an audio signal generator and an attenuator to the right channel LINE IN, and a VTVM to the right channel LINE OUT. Adjust the potentiometer (P207) for the right channel by following the same procedure as for the left channel.

- **for Ferrichrome Tape**

Set the Bias and the Equalizer Switches to FeCr.

Insert a ferrichrome tape (Example: SONY DUAD C-60) into the cassette compartment. Then, adjust the potentiometers by following the conditions described below and the same procedure as for the Chromium Dioxide Tape.

* Input Signals . . . . 1kHz and 12.5kHz
* Input Level . . . . 5mV (−46dB)
* Potentiometers for adjustment
  Left Channel P106
  Right Channel P206

- **for Normal Tape**

Set the Bias and the Equalizer Switches to NORM.

Insert a normal tape (Example: TDK AC-511) into the cassette compartment. Then, adjust the potentiometers by following the conditions described below and the same procedure as for the Chromium Dioxide Tape.

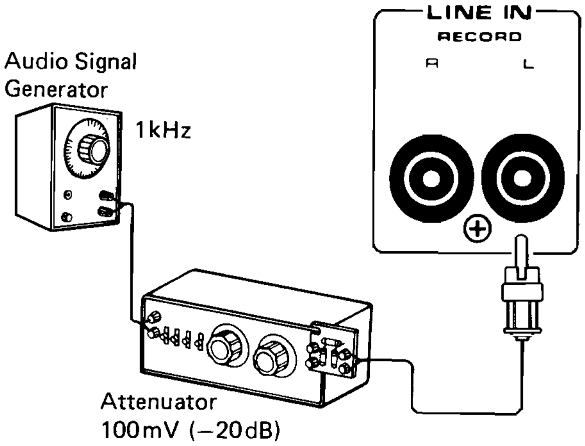
* Input Signals . . . . 1kHz and 12.5kHz
* Input Level . . . . 5mV (−46dB)
* Potentiometers for adjustment
  Left Channel P105
  Right Channel P205

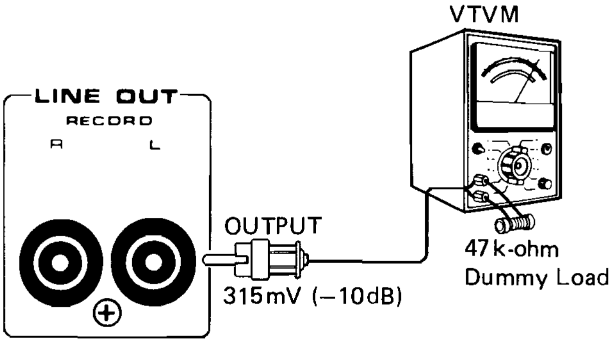
RECORD & PLAYBACK SENSITIVITY ADJUSTMENT

- **for Chromium Dioxide Tape**

LEFT CHANNEL

1. Connect an audio signal generator and an attenuator to the left channel LINE IN, and a VTVM to the left channel LINE OUT as illustrated. Then, insert a ferrichrome tape (Example: TDK AC-221) into the cassette compartment and set the Bias and the Equalizer Switches to CrO2.





2. Set the unit in the recording mode with the PAUSE button down. Then, feed a 1kHz signal from the audio signal generator at 100mV (−20dB) to the unit and adjust the left channel Input Level Control until the signal output becomes 315mV (−10dB) on the VTVM.

ELECTRICAL ADJUSTMENTS (Continued)

3. Record the 1 kHz signal on the tape by repressing the PAUSE button.
4. While the recorded signal is being played back, check that the VTVM reads 315 mV.
5. If not, adjust the potentiometer (P102) and re-check the output again after the recording and playback operations for the signal.
6. Repeat the above adjustment until the specified output is obtained.

RIGHT CHANNEL
Connect an audio signal generator and an attenuator to the right channel LINE IN, and a VTVM to the right channel LINE OUT. Adjust the potentiometer (P202) for the right channel by following the same procedure as for the left channel.

- **for Ferrichrome Tape**
  Set the Bias and the Equalizer Switches to FeCr.

Insert a normal tape (Example: SONY DUAD C-60) into the cassette compartment. Then, adjust the potentiometers by following the conditions described below and the same procedure as for the Ferrichrome Tape.

* Input Signal . . . . 1 kHz
* Input Level . . . . 100 mV (−20dB)
* Potentiometers for adjustment
  Left Channel P104
  Right Channel P204

PARTS LIST

PRODUCT SAFETY NOTICE

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN A COMPONENT REPLACEMENT IS MADE IN ANY AREA OF AN UNIT. COMPONENTS INDICATED BY A MARK ⚠ IN THIS PARTS LIST AND THE SCHEMATIC DIAGRAM SHOW COMPONENTS WHOSE VALUE HAS SPECIAL SIGNIFICANCE TO PRODUCT SAFETY. IT IS PARTICULARLY RECOMMENDED THAT ONLY PARTS SPECIFIED ON THE FOLLOWING PARTS LIST BE USED FOR COMPONENT REPLACEMENT POINTED OUT BY THE MARK.

Ref. No.	Part No.	Description	Q'ty
PACKAGE			
	141 6 1419 37713	Individual Carton	1
	141 6 1449 52800	Styrofoam Case	2
	141 6 2519 08015	Poly Cover	1
	141 6 2519 08490	Poly Cover	1
	141 6 2519 10025	Poly Cover	1
	141 6 2519 24033	Poly Cover	1
	141 6 4559 00100	Serial No. Sheet	2
ACCESSORIES			
	4 2369 70571	Patch Cord	2
	4 2419 71264	Cassette Tape	1
	141 2 3529 10600	Cassette Stopper	1
	141 6 4119 80003	Instruction Manual	1
	141 6 4729 07400	Caution Label	1
	141 6 4729 07700	Caution Label	1
CABINET			
	141 0 1119 62200	Front Panel Assy	1
	141 0 1249 14302	Cassette Lid Assy	1
	141 2 1119 44200	Cover	1
	141 2 1419 09228	Rating Plate	1
	141 2 2449 25901	Panel Sheet	1
	141 2 4219 15500	Screw, Washer	4
	143 3 1903 00611	Screw, Brazier Hd. Tapping-B +M3.0x6	3
	143 3 1903 01011	Screw, Brazier Hd. Tapping-B +M3.0x10	5
	141 2 1639 33200	Knob	2
	131 2 1601 50400	Knob	5
CN2	4 2359 70990	RT Pin Socket	1
CN3	4 2359 70990	RT Pin Socket	1
POWER SUPPLY P.C.B. ASSY			
	4 1329 75000	Power Supply P.C.B. Assy	1
	141 2 4729 04700	Staple 10	6
	141 2 3689 03000	Transistor Bracket (for Q1)	1
	101 3 1303 00611	Screw, Pan Hd. +M3.0x6	1
	106 3 1103 00011	Nut-1 M3.0	1
C1	CD1 0 8500 0001V	Electrolytic 1000 µF 50V	1
C3	CD4 7 7350 0001V	Electrolytic 470 µF 35V	1
C4	CD1 0 8350 0001V	Electrolytic 1000 µF 35V	1
C6	CD1 0 8160 0001V	Electrolytic 1000 µF 16V	1
C10	CD1 0 5160 0000V	Electrolytic 1 µF 16V	1
C12	CC4 7 3500 ZG00C	Ceramic 0.047 µF 50V +80, −20%	1
C13	CC4 7 3500 ZG00C	Ceramic 0.047 µF 50V +80, −20%	1
C14	CC4 7 3500 ZG00C	Ceramic 0.047 µF 50V +80, −20%	1
C15	CD1 0 7160 0000V	Electrolytic 100 µF 16V	1
C17	CC4 7 3500 ZG00C	Ceramic 0.047 µF 50V +80, −20%	1
C133	CC1 2 1500 KD00C	Ceramic 120 pF 50V ±10%	1
C134	CC2 2 1500 KD00C	Ceramic 220 pF 50V ±10%	1
C233	CC1 2 1500 KD00C	Ceramic 120 pF 50V ±10%	1
C234	CC2 2 1500 KD00C	Ceramic 220 pF 50V ±10%	1
D1	202 5 2300 018101	Diode, DS18	1
D2	202 5 2300 017101	Diode, DS17	1
D3	202 5 9410 010101	Diode, 10D-1	1
D4	202 5 9410 010101	Diode, 10D-1	1
D5	4 2029 70750	Diode, RD30E	1
L102	4 2729 70290	Coil (33 mH)	1
L202	4 2729 70290	Coil (33 mH)	1
POWER SUPPLY P.C.B. ASSY			
P105	4 2229 72972	Potentiometer (B-200k)	1
P106	4 2229 72972	Potentiometer (B-200k)	1
P107	4 2229 72972	Potentiometer (B-200k)	1
P205	4 2229 72972	Potentiometer (B-200k)	1
P206	4 2229 72972	Potentiometer (B-200k)	1
P207	4 2229 72972	Potentiometer (B-200k)	1
R1	RH3 3 A102 KH000	Metal 3.3 ohm 1W	1
R2	RD1 2 2251 KM000	Carbon 1.2k ohm 1/4W ±10%	1
R4	RD5 6 A251 KM000	Carbon 5.6 ohm 1/4W ±10%	1
R15	RH2 7 1202 KH000	Metal 270 ohm 2W ±10%	1
R16	RH3 3 1202 KH000	Metal 330 ohm 2W ±10%	1
R17	RH4 7 1202 KH000	Metal 470 ohm 2W ±10%	1
	4 2589 71044	OSC Block	1
CN1	4 2369 71480	Connector 3P	1
CN2	4 2369 70740	RT Pin	1
CN3	4 2369 70740	RT Pin	1
	⚠ 4 2359 70910	Fuse Holder	4
F1	⚠ 4 2349 70040	Fuse (500 mA)	1
F2	⚠ 4 2349 70040	Fuse (500 mA)	1
S3	4 2319 73350	Slide Switch (Bias)	1
Q1	203 5 8210 32540	Transistor, 2SD325	1
AMPLIFIER P.C.B. ASSY			
	4 1329 75010	Amplifier P.C.B. Assy	1
Q2	203 5 5100 53650	Transistor, 2SC536	1
Q3	203 5 5100 53650	Transistor, 2SC536	1
Q4	203 5 5100 53650	Transistor, 2SC536	1
Q101	203 5 5100 69352	Transistor, 2SC693	1
Q102	4 2039 70093	Transistor, 2SD227	1
Q104	203 5 5100 53650	Transistor, 2SC536	1
Q105	203 5 5100 53650	Transistor, 2SC536	1
Q106	203 5 5100 53650	Transistor, 2SC536	1
Q107	203 5 5100 53650	Transistor, 2SC536	1
Q108	203 5 5100 53650	Transistor, 2SC536	1
Q109	203 5 5100 53650	Transistor, 2SC536	1
Q110	203 5 5100 53650	Transistor, 2SC536	1
Q111	203 5 5100 53650	Transistor, 2SC536	1
Q201	203 5 5100 69352	Transistor, 2SC693	1
Q202	4 2039 70093	Transistor, 2SD227	1
Q204	203 5 5100 53650	Transistor, 2SC536	1
Q205	203 5 5100 53650	Transistor, 2SC536	1
Q206	203 5 5100 53650	Transistor, 2SC536	1
Q207	203 5 5100 53650	Transistor, 2SC536	1
Q208	203 5 5100 53650	Transistor, 2SC536	1
Q209	203 5 5100 53650	Transistor, 2SC536	1
Q210	203 5 5100 53650	Transistor, 2SC536	1
Q211	203 5 5100 53650	Transistor, 2SC536	1
C5	CD4 7 7350 0000V	Electrolytic 470 µF 35V	1
C7	CD2 2 7160 0000V	Electrolytic 220 µF 16V	1
C8	CD1 0 7160 0000V	Electrolytic 100 µF 16V	1
C9	CD1 0 7160 0000V	Electrolytic 100 µF 16V	1
C11	CD2 2 7160 0000V	Electrolytic 220 µF 16V	1
C16	CC1 0 3500 ZG00C	Ceramic 0.01 µF 50V +80, −20%	1
C101	CC1 2 2500 KE00C	Ceramic 0.0012 µF 50V ±10%	1
C102	CC6 8 0500 KD00C	Ceramic 68 pF 50V ±10%	1
C103	CC4 7 1500 KD00C	Ceramic 470 pF 50V ±10%	1
C104	CD4 7 5160 0000V	Electrolytic 4.7 µF 16V	1
C106	CM1 5 3500 K00SV	Mylar 0.015 µF 50V ±10%	1
C107	CD1 0 663A 0000V	Electrolytic 10 µF 6.3V	1

PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty
AMPLIFIER P.C.B. ASSY			
C108	CD4 7 5250 0000V	Electrolytic 4.7 µF 25V	1
C109	CD4 7 6250 0000V	Electrolytic 47 µF 25V	1
C110	CM1 8 3500 K00SV	Mylar 0.018 µF 50V ±10%	1
C112	CD1 0 6160 0000V	Electrolytic 10 µF 16V	1
C113	CC1 0 2500 KE00C	Ceramic 0.001 µF 50V ±10%	1
C114	CD1 0 5250 0000V	Electrolytic 1 µF 25V	1
C116	CD1 0 6250 0000V	Electrolytic 10 µF 25V	1
C118	CC1 0 2500 KE00C	Ceramic 0.001 µF 50V ±10%	1
C119	CD1 0 6250 0000V	Electrolytic 10 µF 25V	1
C120	CD1 0 5350 0000V	Electrolytic 1 µF 35V	1
C121	CD1 0 5350 0000V	Electrolytic 1 µF 35V	1
C122	CD4 7 5160 0000V	Electrolytic 4.7 µF 16V	1
C123	CC3 9 0500 KD00C	Ceramic 39 pF 50V ±10%	1
C124	CC5 6 0500 KD00C	Ceramic 56 pF 50V ±10%	1
C125	CD1 0 763A 0000V	Electrolytic 100 µF 6.3V	1
C126	CD4 7 5160 0000V	Electrolytic 4.7 µF 16V	1
C127	CA4 7 4100 K000V	Aluminum 0.47 µF 10V ±10%	1
C128	CM1 8 3500 K00SV	Mylar 0.018 µF 50V ±10%	1
C129	CM4 7 3500 K00SV	Mylar 0.047 µF 50V ±10%	1
C130	CM2 2 3500 K00SV	Mylar 0.022 µF 50V ±10%	1
C131	CM1 8 3500 K00SV	Mylar 0.018 µF 50V ±10%	1
C132	CC4 7 1500 KE00C	Ceramic 470 pF 50V ±10%	1
C140	CC2 2 0500 KD00C	Ceramic 22 pF 50V ±10%	1
C141	CC2 2 1500 KD00C	Ceramic 220 pF 50V ±10%	1
C201	CC1 2 2500 KE00C	Ceramic 0.0012 µF 50V ±10%	1
C202	CC6 8 0500 KD00C	Ceramic 68 pF 50V ±10%	1
C203	CC4 7 1500 KD00C	Ceramic 470 pF 50V ±10%	1
C204	CD4 7 5160 0000V	Electrolytic 4.7 µF 16V	1
C206	CM1 5 3500 K00SV	Mylar 0.015 µF 50V ±10%	1
C207	CD1 0 663A 0000V	Electrolytic 10 µF 6.3V	1
C208	CD4 7 5250 0000V	Electrolytic 4.7 µF 25V	1
C209	CD4 7 6250 0000V	Electrolytic 47 µF 25V	1
C210	CM1 8 3500 K00SV	Mylar 0.018 µF 50V ±10%	1
C212	CD1 0 6160 0000V	Electrolytic 10 µF 16V	1
C213	CC1 0 2500 KE00C	Ceramic 0.001 µF 50V ±10%	1
C214	CD1 0 5250 0000V	Electrolytic 1 µF 25V	1
C216	CD1 0 6250 0000V	Electrolytic 10 µF 25V	1
C218	CC1 0 2500 KE00C	Ceramic 0.001 µF 50V ±10%	1
C219	CD1 0 6250 0000V	Electrolytic 10 µF 25V	1
C220	CD1 0 5350 0000V	Electrolytic 1 µF 35V	1
C221	CD1 0 5350 0000V	Electrolytic 1 µF 35V	1
C222	CD4 7 5160 0000V	Electrolytic 4.7 µF 16V	1
C223	CC3 9 0500 KD00C	Ceramic 39 pF 50V ±10%	1
C224	CC5 6 0500 KD00C	Ceramic 56 pF 50V ±10%	1
C225	CD1 0 763A 0000V	Electrolytic 100 µF 6.3V	1
C226	CD4 7 5160 0000V	Electrolytic 4.7 µF 16V	1
C227	CA4 7 4100 K000V	Aluminum 0.47 µF 10V ±10%	1
C228	CM1 8 3500 K00SV	Mylar 0.018 µF 50V ±10%	1
C229	CM4 7 3500 K00SV	Mylar 0.047 µF 50V ±10%	1
C230	CM2 2 3500 K00SV	Mylar 0.022 µF 50V ±10%	1
C231	CM1 8 3500 K00SV	Mylar 0.018 µF 50V ±10%	1
C232	CC4 7 1500 KE00C	Ceramic 470 pF 50V ±10%	1
C240	CC2 2 0500 KD00C	Ceramic 22 pF 50V ±10%	1
C241	CC2 2 1500 KD00C	Ceramic 220 pF 50V ±10%	1
D6	4 2029 70540	Diode, RD5.6E	1
D101	202 5 9110 18820	Diode, 1S188	1
D102	202 5 9110 18820	Diode, 1S188	1
D103	4 2029 70540	Diode, DS5.6E	1
D104	202 5 9531 01011	Diode, WG1010A	1
D105	202 5 9531 01011	Diode, WG1010A	1
D106	202 5 9531 01011	Diode, WG1010A	1
D107	202 5 9531 01011	Diode, WG1010A	1
D108	202 5 9531 01011	Diode, WG1010A	1
D109	202 5 9531 01011	Diode, WG1010A	1
D201	202 5 9110 18820	Diode, 1S188	1
D202	202 5 9110 18820	Diode, 1S188	1
D203	4 2029 70540	Diode, RD5.6E	1
D204	202 5 9531 01011	Diode, WG1010A	1
D205	202 5 9531 01011	Diode, WG1010A	1
D206	202 5 9531 01011	Diode, WG1010A	1

Ref. No.	Part No.	Description	Q'ty
AMPLIFIER P.C.B. ASSY			
D207	202 5 9531 01011	Diode, WG1010A	1
D208	202 5 9531 01011	Diode, WG1010A	1
D209	202 5 9531 01011	Diode, WG1010A	1
L101	4 2729 70320	Coil (5.6 mH)	1
L201	4 2729 70320	Coil (5.6 mH)	1
P101	4 2229 72840	Potentiometer (B-20k)	1
P102	4 2229 72840	Potentiometer (B-20k)	1
P103	4 2229 72570	Potentiometer (B-10k)	1
P104	4 2229 72840	Potentiometer (B-20k)	1
P201	4 2229 72840	Potentiometer (B-20k)	1
P202	4 2229 72840	Potentiometer (B-20k)	1
P203	4 2229 72570	Potentiometer (B-10k)	1
P204	4 2229 72840	Potentiometer (B-20k)	1
IC101	4 2069 70400	IC, TA7139P	1
IC102	4 2069 70410	IC, TA7129P	1
IC201	4 2069 70400	IC, TA7139P	1
IC202	4 2069 70410	IC, TA7129P	1
R6	RH3 3 1202 KH000	Metal 330 ohm 2W ±10%	1
R7	RD3 3 3251 KV000	Carbon 33k ohm 1/4W ±10%	1
R8	RD8 2 3251 KV000	Carbon 82k ohm 1/4W ±10%	1
R9	RD1 0 2251 JS000	Carbon 1k ohm 1/4W ±5%	1
R10	RD2 2 3251 KV000	Carbon 22k ohm 1/4W ±10%	1
R11	RD2 2 4251 JS000	Carbon 220k ohm 1/4W ±5%	1
R12	RD3 3 3251 KH000	Carbon 33k ohm 1/4W ±10%	1
R13	RD1 0 4251 JS000	Carbon 100k ohm 1/4W ±5%	1
R14	RD5 6 2251 KH000	Carbon 5.6k ohm 1/4W ±10%	1
R18	RD1 0 2251 KV000	Carbon 1k ohm 1/4W ±10%	1
R19	RD2 2 3251 JS000	Carbon 22k ohm 1/4W ±5%	1
R101	RD1 0 3251 KV000	Carbon 10k ohm 1/4W ±10%	1
R103	RD3 3 4251 KV001	Carbon 330k ohm 1/4W ±10%	1
R104	RD1 0 4251 KV001	Carbon 100k ohm 1/4W ±10%	1
R105	RD1 0 2251 JS000	Carbon 1k ohm 1/4W ±5%	1
R106	RD1 8 1251 JS000	Carbon 180 ohm 1/4W ±5%	1
R107	RD1 6 4251 JS000	Carbon 160k ohm 1/4W ±5%	1
R108	RD 9 1 2251 JS000	Carbon 9.1k ohm 1/4W ±5%	1
R109	RD1 0 4251 JS000	Carbon 100k ohm 1/4W ±5%	1
R110	RD3 3 2251 JS000	Carbon 3.3k ohm 1/4W ±5%	1
R111	RD4 7 2251 JS000	Carbon 4.7k ohm 1/4W ±5%	1
R112	RD3 3 2251 JS000	Carbon 3.3k ohm 1/4W ±5%	1
R113	RD1 0 3251 JS000	Carbon 10k ohm 1/4W ±5%	1
R114	RD3 9 2251 JS000	Carbon 3.9k ohm 1/4W ±5%	1
R115	RD3 3 2251 KH000	Carbon 3.3k ohm 1/4W ±10%	1
R116	RD2 2 3251 JS000	Carbon 22k ohm 1/4W ±5%	1
R117	RD1 0 4251 JS000	Carbon 100k ohm 1/4W ±5%	1
R118	RD1 0 2251 JS000	Carbon 1k ohm 1/4W ±5%	1
R119	RD1 0 2251 JS000	Carbon 1k ohm 1/4W ±5%	1
R120	RD3 3 4251 JS000	Carbon 330k ohm 1/4W ±5%	1
R121	RD3 3 3251 JS000	Carbon 33k ohm 1/4W ±5%	1
R122	RD2 2 2251 JS000	Carbon 2.2k ohm 1/4W ±5%	1
R123	RD3 3 1251 JS000	Carbon 330 ohm 1/4W ±5%	1
R134	RD3 3 2251 JS000	Carbon 3.3k ohm 1/4W ±5%	1
R135	RD1 0 2251 JS000	Carbon 1k ohm 1/4W ±5%	1
R136	RD3 3 3251 KH000	Carbon 33k ohm 1/4W ±10%	1
R143	RD3 9 3251 KV000	Carbon 39k ohm 1/4W ±10%	1
R144	RD6 8 3251 JS000	Carbon 68k ohm 1/4W ±5%	1
R145	RD1 0 4251 JS000	Carbon 100k ohm 1/4W ±5%	1
R146	RD1 0 2251 JS000	Carbon 1k ohm 1/4W ±5%	1
R147	RD1 0 3251 KV000	Carbon 10k ohm 1/4W ±10%	1
R148	RD2 2 1251 KV000	Carbon 220 ohm 1/4W ±10%	1
R149	RD1 0 4251 JS000	Carbon 100k ohm 1/4W ±5%	1
R150	RD2 2 3251 JS000	Carbon 22k ohm 1/4W ±5%	1
R151	RD2 7 3251 JS000	Carbon 27k ohm 1/4W ±5%	1
R152	RD2 7 3251 JS000	Carbon 27k ohm 1/4W ±5%	1
R153	RD4 7 2251 JS000	Carbon 4.7k ohm 1/4W ±5%	1
R154	RD1 0 2251 JS000	Carbon 1k ohm 1/4W ±5%	1
R155	RD2 4 3251 JS000	Carbon 24k ohm 1/4W ±5%	1
R156	RD8 2 4251 JS000	Carbon 820k ohm 1/4W ±5%	1
R157	RD1 0 4251 JS000	Carbon 100k ohm 1/4W ±5%	1
R158	RD3 3 3251 JS000	Carbon 33k ohm 1/4W ±5%	1
R159	RD1 5 3251 JS000	Carbon 15k ohm 1/4W ±5%	1

PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty
AMPLIFIER P.C.B. ASSY			
R160	RD1 0 4251 JS000	Carbon 100k ohm 1/4W ±5%	1
R161	RD5 6 2251 KV000	Carbon 5.6k ohm 1/4W ±10%	1
R162	RD1 8 1251 JS000	Carbon 180 ohm 1/4W ±5%	1
R163	RD3 9 2251 JS000	Carbon 3.9k ohm 1/4W ±5%	1
R164	RD2 7 2251 JS000	Carbon 2.7k ohm 1/4W ±5%	1
R165	RD8 2 2251 JS000	Carbon 8.2k ohm 1/4W ±5%	1
R166	RD1 0 3251 JS000	Carbon 10k ohm 1/4W ±5%	1
R167	RD4 7 2251 JS000	Carbon 4.7k ohm 1/4W ±5%	1
R168	RD2 7 3251 JS000	Carbon 27k ohm 1/4W ±5%	1
R169	RD2 7 3251 JS000	Carbon 27k ohm 1/4W ±5%	1
R170	RD2 7 3251 JS000	Carbon 27k ohm 1/4W ±5%	1
R171	RD2 7 3251 JS000	Carbon 27k ohm 1/4W ±5%	1
R172	RD2 7 3251 JS000	Carbon 27k ohm 1/4W ±5%	1
R173	RD2 7 3251 JS000	Carbon 27k ohm 1/4W ±5%	1
R174	RD1 5 3251 JS000	Carbon 15k ohm 1/4W ±5%	1
R175	RD1 0 3251 JS000	Carbon 10k ohm 1/4W ±5%	1
R201	RD1 0 3251 KV000	Carbon 10k ohm 1/4W ±10%	1
R203	RD3 3 4251 KV001	Carbon 330k ohm 1/4W ±10%	1
R204	RD1 0 4251 KV001	Carbon 100k ohm 1/4W ±10%	1
R205	RD1 0 2251 JS000	Carbon 1k ohm 1/4W ±5%	1
R206	RD1 8 1251 JS000	Carbon 180 ohm 1/4W ±5%	1
R207	RD1 6 4251 JS000	Carbon 160k ohm 1/4W ±5%	1
R208	RD9 1 2251 JS000	Carbon 9.1k ohm 1/4W ±5%	1
R209	RD1 0 4251 JS000	Carbon 100k ohm 1/4W ±5%	1
R210	RD3 3 2251 JS000	Carbon 3.3k ohm 1/4W ±5%	1
R211	RD4 7 2251 JS000	Carbon 4.7k ohm 1/4W ±5%	1
R212	RD3 3 2251 JS000	Carbon 3.3k ohm 1/4W ±5%	1
R213	RD1 0 3251 JS000	Carbon 10k ohm 1/4W ±5%	1
R214	RD3 9 2251 JS000	Carbon 3.9k ohm 1/4W ±5%	1
R215	RD3 3 2251 KH000	Carbon 3.3k ohm 1/4W ±10%	1
R216	RD2 2 3251 JS000	Carbon 22k ohm 1/4W ±5%	1
R217	RD1 0 4251 JS000	Carbon 100k ohm 1/4W ±5%	1
R218	RD1 0 2251 JS000	Carbon 1k ohm 1/4W ±5%	1
R219	RD1 0 2251 JS000	Carbon 1k ohm 1/4W ±5%	1
R220	RD3 3 4251 JS000	Carbon 330k ohm 1/4W ±5%	1
R221	RD3 3 3251 JS000	Carbon 33k ohm 1/4W ±5%	1
R222	RD2 2 2251 JS000	Carbon 2.2k ohm 1/4W ±5%	1
R223	RD3 3 1251 JS000	Carbon 330 ohm 1/4W ±5%	1
R234	RD3 3 2251 KV000	Carbon 3.3k ohm 1/4W ±10%	1
R235	RD1 0 2251 JS000	Carbon 1k ohm 1/4W ±5%	1
R236	RD3 3 3251 KH000	Carbon 33k ohm 1/4W ±10%	1
R243	RD3 9 3251 KV000	Carbon 39k ohm 1/4W ±10%	1
R244	RD6 8 3251 JS000	Carbon 68k ohm 1/4W ±5%	1
R245	RD1 0 4251 JS000	Carbon 100k ohm 1/4W ±5%	1
R246	RD1 0 2251 JS000	Carbon 1k ohm 1/4W ±5%	1
R247	RD1 0 3251 KV000	Carbon 10k ohm 1/4W ±10%	1
R248	RD2 2 1251 KV000	Carbon 220 ohm 1/4W ±10%	1
R249	RD1 0 4251 JS000	Carbon 100k ohm 1/4W ±5%	1
R250	RD2 2 3251 JS000	Carbon 22k ohm 1/4W ±5%	1
R251	RD2 7 3251 JS000	Carbon 27k ohm 1/4W ±5%	1
R252	RD2 7 3251 JS000	Carbon 27k ohm 1/4W ±5%	1
R253	RD4 7 2251 JS000	Carbon 4.7k ohm 1/4W ±5%	1
R254	RD1 0 2251 JS000	Carbon 1k ohm 1/4W ±5%	1
R255	RD2 4 3251 JS000	Carbon 24k ohm 1/4W ±5%	1
R256	RD8 2 4251 KV000	Carbon 820k ohm 1/4W ±10%	1
R257	RD1 0 4251 KV000	Carbon 100k ohm 1/4W ±10%	1
R258	RD3 3 3251 KV000	Carbon 33k ohm 1/4W ±10%	1
R259	RD1 5 3251 JS000	Carbon 15k ohm 1/4W ±5%	1
R260	RD1 0 4251 JS000	Carbon 100k ohm 1/4W ±5%	1
R261	RD5 6 2251 JS000	Carbon 5.6k ohm 1/4W ±5%	1
R262	RD1 8 1251 JS000	Carbon 180 ohm 1/4W ±5%	1
R263	RD3 9 2251 JS000	Carbon 3.9k ohm 1/4W ±5%	1
R264	RD2 7 2251 JS000	Carbon 2.7k ohm 1/4W ±5%	1
R265	RD8 2 2251 JS000	Carbon 8.2k ohm 1/4W ±5%	1
R266	RD1 0 3251 JS000	Carbon 10k ohm 1/4W ±5%	1
R267	RD4 7 2251 JS000	Carbon 4.7k ohm 1/4W ±5%	1
R268	RD2 7 3251 JS000	Carbon 27k ohm 1/4W ±5%	1
R269	RD2 7 3251 JS000	Carbon 27k ohm 1/4W ±5%	1
R270	RD2 7 3251 JS000	Carbon 27k ohm 1/4W ±5%	1
R271	RD2 7 3251 JS000	Carbon 27k ohm 1/4W ±5%	1
AMPLIFIER P.C.B. ASSY			
R272	RD2 7 3251 JS000	Carbon 27k ohm 1/4W ±5%	1
R273	RD2 7 3251 JS000	Carbon 27k ohm 1/4W ±5%	1
R274	RD1 5 3251 JS000	Carbon 15k ohm 1/4W ±5%	1
R275	RD1 0 3251 JS000	Carbon 10k ohm 1/4W ±5%	1
	141 2 4729 04700	Staple 10	40
VR101	4 2229 71622	Volume Control (Input Level Control)	1
VR201	4 2229 71622	Volume Control (Input Level Control)	1
UN101	4 1329 74184	DOLBY NR Unit P.C.B. Assy	1
UN201	4 1329 74184	DOLBY NR Unit P.C.B. Assy	1
J6	4 2359 71550	DIN Socket 5P	1
S1	4 2319 71803	Slide Switch (Record/Playback)	1
S2	4 2319 71803	Slide Switch (Record/Playback)	1
S4	4 2319 73270	Slide Switch Lever (EQ)	1
S5	4 2319 72941	Slide Switch Lever (Input Select)	1
S6	4 2319 72930	Slide Switch Lever (DOLBY NR)	1
	141 2 7419 43900	Switch Lever (for S1, S2)	1
	101 3 1302 00811	Screw, Pan Hd. +M2.0x8	2
J4	4 2359 73600	Jack 2P (Line In)	1
J5	4 2359 73600	Jack 2P (Line Out)	1
DOLBY NR UNIT P.C.B. ASSY			
	4 1329 74184	DOLBY NR Unit P.C.B. Assy	1
	4 2369 71520	Connector 9P	1
C1	CD2 2 7160 0000V	Electrolytic 220 µF 16V	1
C2	CD1 0 5160 0000V	Electrolytic 1 µF 16V	1
C3	CD1 0 6160 0000V	Electrolytic 10 µF 16V	1
C4	CD1 0 6160 0000V	Electrolytic 10 µF 16V	1
C5	CD1 0 6160 0000V	Electrolytic 10 µF 16V	1
C6	CA1 0 4100 K000V	Aluminum 0.1 µF 10V ±10%	1
C7	CA3 3 4100 K000V	Aluminum 0.33 µF 10V ±10%	1
C8	CD1 0 6160 0000V	Electrolytic 10 µF 16V	1
C9	CC2 2 2500 KE00C	Ceramic 0.0022 µF 50V ±10%	1
C10	CM4 7 3500 K00SV	Mylar 0.047 µF 50V ±10%	1
C11	CM4 7 2500 K00SV	Mylar 0.0047 µF 50V ±10%	1
C12	CM2 7 3500 K00SV	Mylar 0.027 µF 50V ±10%	1
C13	CM5 6 2500 K00SV	Mylar 0.0056 µF 50V ±10%	1
C14	CC2 2 1500 KE00C	Ceramic 220 pF 50V ±10%	1
IC1	4 2069 70380	IC, NE646B	1
	141 2 4729 04400	Staple 12.5	2
L1	4 2729 70190	DOLBY Filter Coil	1
R1	RD1 0 2251 KV000	Carbon 1k ohm 1/4W ±10%	1
R2	RD3 3 2251 KV000	Carbon 3.3k ohm 1/4W ±10%	1
R3	RD1 0 2251 KV000	Carbon 1k ohm 1/4W ±10%	1
R4	RD4 7 3251 KV000	Carbon 47k ohm 1/4W ±10%	1
R5	RD1 8 1251 KV000	Carbon 180 ohm 1/4W ±10%	1
R6	RD2 7 4251 KV000	Carbon 270k ohm 1/4W ±10%	1
R7	RD2 0 4251 JV000	Carbon 200k ohm 1/4W ±5%	1
R8	RD1 0 5251 KV000	Carbon 1M ohm 1/4W ±10%	1
R9	RD1 0 5251 KH000	Carbon 1M ohm 1/4W ±10%	1
LAMP P.C.B. ASSY			
	4 1329 75030	Lamp P.C.B. Assy	1
PL1	4 6129 70151	Lamp	1
	4 2359 70880	Fuse Holder	2
	4 2269 32140	Lamp P.C.B.	1
R5	RD2 7 0251 KM000	Carbon 27 ohm 1/4W ±10%	1
MECHANISM			
S7	4 2319 73110	Leaf Switch (Muting)	1
S9	4 2319 72010	Leaf Switch (Motor)	1
S10	⚠ 4 2319 72910	Power Switch Lever (Power)	1
S11	⚠ 4 2319 72140	Slide Switch (Voltage)	1
	4 2319 73360	Slide Switch Lever (for S3)	1
CN1	4 2359 72986	Connector 3P Assy	1
J1	4 2359 73903	Jack 1P (Microphone)	1
J2	4 2359 73903	Jack 1P (Microphone)	1
J3	4 2359 73902	Jack 1P (Headphone)	1
	⚠ 4 2379 70560	Terminal	1
	4 2379 70650	Terminal Ring	2
HD1	4 2429 71550	R/P Head	1

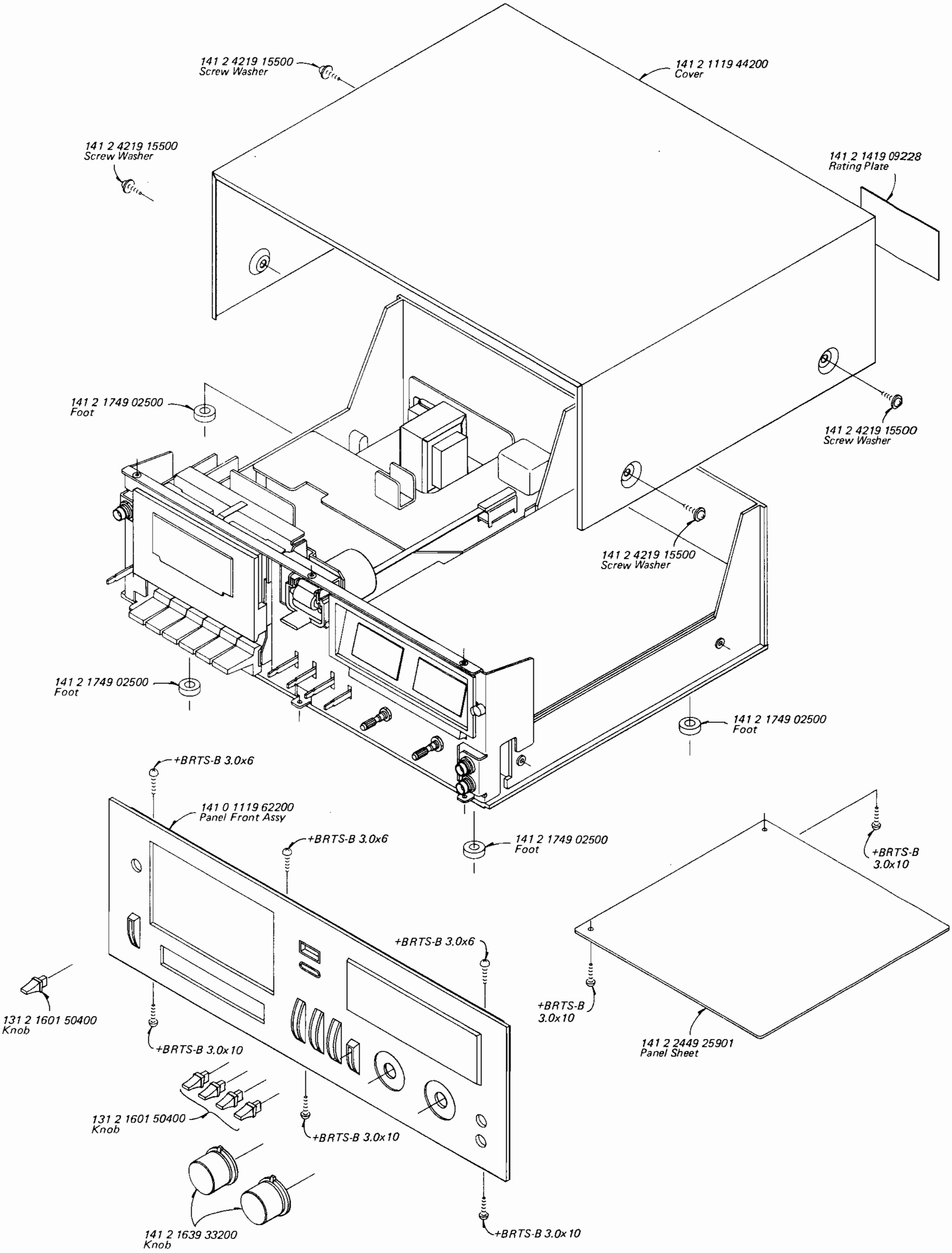
PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty
MECHANISM			
HD2	4 2429 71150	Erase Head	1
	⚠ 4 2439 70352	Power Cord	1
T1	⚠ 4 2519 72740	Power Transformer	1
ME1	4 5119 70409	Indicator	1
ME2	4 5119 70409	Indicator	1
	4 5279 70836	Motor	1
	141 2 5519 04400	Intermediate Pulley	1
	141 0 1619 26401	Select Button Assy	6
	141 0 3119 14504	Chassis Assy	1
	141 0 3169 03900	Chassis Bracket Assy	1
	141 0 3519 14600	Record Bracket Assy	1
	141 0 5219 03901	Flywheel Assy	1
	141 0 5419 02302	Pinch Roller Assy	1
	141 0 5519 05901	Friction Assy	1
	141 0 5519 06400	Eject Gear Assy	1
	141 0 7439 05400	Fast Wind Arm Assy	1
	141 0 7439 06300	Take-up Arm Assy	1
	141 2 8519 75300	Spring, Pause Lever	1
	141 2 1149 18700	Compartment Cabinet	1
	141 2 1149 19901	Chassis Panel	1
	141 2 1249 17500	Cassette Lid Frame	1
	141 2 1519 12201	Reflection	1
	141 2 1539 11101	Meter Dress	1
	141 2 1749 02500	Foot	4
	141 2 3119 10400	Cabinet Chassis	1
	141 2 3169 10601	Chassis Bracket	1
	141 2 3519 36900	Flywheel Support	1
	141 2 3519 37000	Cassette Holder, Left	1
	141 2 3519 37100	Cassette Holder, Right	1
	141 2 3529 17800	Spacer, Head	1
	141 2 3529 17900	Spacer, Brake	1
	141 2 3529 18101	Spacer, Head	1
	141 2 3529 19100	Spacer, Base	1
	141 2 3529 19401	Spacer, Gear	1
	141 2 3719 04100	Transformer Bracket	1
	141 2 3769 08300	R/P Post Head	1
	141 2 3899 06900	Clamp, Power Cord	1
	141 2 3899 08300	Cord Holder	1
	141 2 4219 04000	Screw	1
	141 2 4219 05400	Screw, Washer	3
	141 2 4219 11600	Screw	2
	141 2 4219 12100	Screw, Washer	1
	141 2 4219 13200	Screw, Washer	3
	141 2 4359 16600	Insulator	1
	141 2 4459 20500	Brake Cover	2
	141 2 4469 00500	Flywheel Thrust	1
	141 2 4469 25500	Cushion	2
	141 2 4539 06700	Washer	1
	141 2 4539 15800	Washer	1
	141 2 4539 16200	Washer	2
	141 2 4539 18400	Washer	1
	141 2 4629 00700	Flexible Wire (for S3)	1
	141 2 4729 00200	Lug	1
	141 2 4729 04100	Lug	1
	141 2 5319 05100	Reel Gear	2
	141 2 5319 07000	Reel Fin	2
	141 2 5369 00400	Cap, Reel Plate	2
	141 2 5519 22000	Take-up Gear	1
	141 2 5519 22300	Fast Wind Gear	2
	141 2 5519 22400	Rewind Gear	1
	141 2 5519 27200	Auto Shut-off Pulley	1
	141 2 5559 04500	Eject Gear Plate	1
	141 2 5649 09900	Take-up Belt	1
	141 2 5649 11000	Drive Belt	1
	141 2 5649 11100	Auto Shut-off Belt	1
	141 2 5649 11600	Counter Belt	1
	141 2 6129 04500	Spindle, Button Lever	1
	141 2 6139 13101	Button Frame	1
	141 2 7149 03400	Brake	1
	141 2 7319 31100	Plate	1

Ref. No.	Part No.	Description	Q'ty
MECHANISM			
	141 2 7319 32200	Slide Base Plate	1
	141 2 7319 33000	Cassette Lid Lock Plate	1
	141 2 7319 33100	Lock Plate	1
	141 2 7319 34000	Pause Plate	1
	141 2 7359 01300	Record Wire	1
	141 2 7419 48100	Fast Wind Lever	1
	141 2 7419 48300	Record Stop Lever	1
	141 2 7419 51100	Select Lever	1
	141 2 7419 51500	Record Lever	1
	141 2 7419 51600	Auto Shut-off Lever	1
	141 2 7419 51700	Stop Lever	1
	141 2 7419 51900	Stop/Eject Lever	1
	141 2 7419 53500	Record Link Lever	1
	141 2 7419 55900	Pause Lever	1
	141 2 8119 05500	Counter	1
	141 2 8139 04800	Counter Bracket	1
	141 2 8219 24400	Chip, Cassette Lid Lock	1
	141 2 8419 08200	Interlock Lever	1
	141 2 8429 05001	Record Plate	1
	141 2 8519 03600	Spring, Shut-off Lever	1
	141 2 8519 19300	Spring, Brake	1
	141 2 8519 47400	Spring, Head	1
	141 2 8519 65003	Spring, Record Lever	1
	141 2 8519 67100	Spring, Fast Wind	1
	141 2 8519 67700	Spring, Pinch Roller	1
	141 2 8519 67900	Spring, Reel	2
	141 2 8519 68100	Spring, Pause	1
	141 2 8519 70100	Spring, Button Lever	3
	141 2 8519 70200	Spring, Slide Base	1
	141 2 8519 70300	Spring, Pause Plate	2
	141 2 8519 70400	Spring, Slide Base Plate	1
	141 2 8519 70500	Spring, Record Plate	1
	141 2 8519 71700	Spring, Cassette Lid	1
	141 2 8519 71800	Spring, Interlock	1
	141 2 8519 71900	Spring, Take-up Arm	1
	141 2 8519 72000	Spring, Auto Shut-off	1
	141 2 8519 73200	Spring, Terminal	1
	141 2 8519 73400	Spring, Stop Lever	1
	141 2 8539 31000	Spring, Base	1
	141 2 8539 31300	Spring, Cassette	1
	141 2 8539 31400	Spring, Cassette	2
	141 2 8539 35800	Spring, Flywheel	1
C20	CD2 2 7250 0000V	Electrolytic 220 μF 25V	1
	101 3 1302 00411	Screw, Pan Hd. +M2.0x4	2
	101 3 1302 60311	Screw, Pan Hd. +M2.6x3	2
	101 3 1302 60511	Screw, Pan Hd. +M2.6x5	4
	101 3 1303 00411	Screw, Pan Hd. +M3.0x4	2
	101 3 1303 00511	Screw, Pan Hd. +M3.0x5	2
	101 3 1303 01611	Screw, Pan Hd. +M3.0x16	1
	101 3 1702 00811	Screw, Bind Hd. +M2.0x8	1
	101 3 1702 01011	Screw, Bind Hd. +M2.0x10	2
	101 3 2502 01011	Screw, Cylinder Hd. -M2.0x10	1
	103 3 1302 60611	Screw, Pan Hd. Tapping-2 +M2.6x6	7
	103 3 1302 61211	Screw, Pan Hd. Tapping-2 +M2.6x12	2
	103 3 1303 01018	Screw, Pan Hd. Tapping-2 +M3.0x10	2
	103 3 1702 60611	Screw, Bind Hd. Tapping-2 +M2.6x6	1
	103 3 1702 60811	Screw, Bind Hd. Tapping-2 +M2.6x8	2
	104 3 1303 01611	Screw, Pan Hd. Tapping-3 +M3.0x16	2
	104 3 1702 00611	Screw, Bind Hd. Tapping-3 +M2.0x6	2
	110 3 1203 00011	Finished Washer M3.0	2
	112 3 1302 00040	E Ring M2.0	1
	112 3 1302 00082	E Ring M2.0	2
	112 3 1302 50082	E Ring M2.5	1
	131 3 1303 00511	Screw, Pan Hd. C SW +M3.0x5	2
	131 3 1303 00611	Screw, Pan Hd. C SW +M3.0x6	10
	143 3 1302 60811	Screw, Pan Hd. Tapping-B +M2.6x8	1
	143 3 1302 60818	Screw, Pan Hd. Tapping-B +M2.6x8	4
	143 3 1303 01011	Screw, Pan Hd. Tapping-B +M3.0x10	1
	143 3 1903 01011	Screw, Brazier Hd. Tapping-B +M3.0x10	24

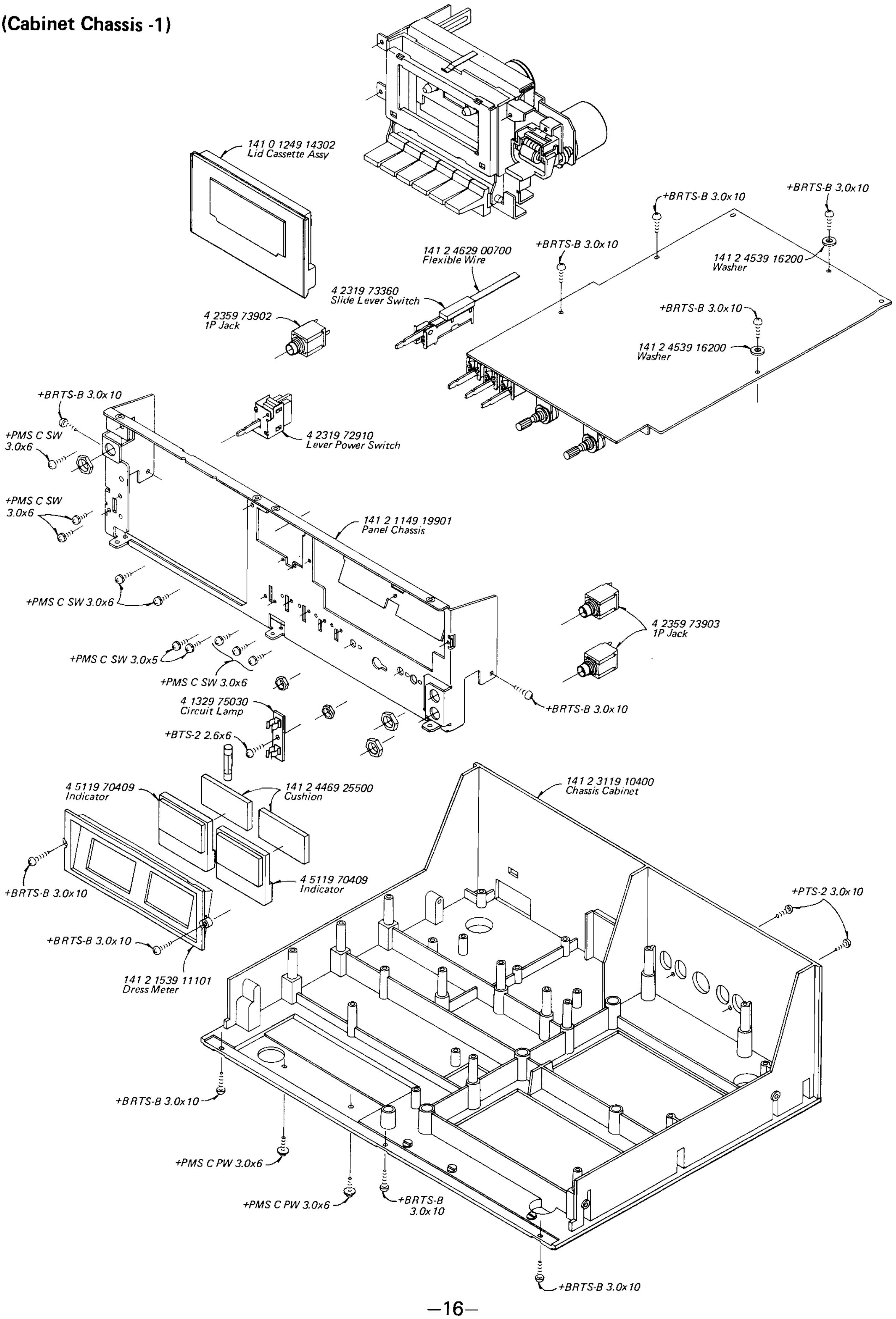
NOTES: 1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

EXPLODED VIEW


141 2 4219 15500
Screw Washer
141 2 1119 44200
Cover
141 2 4219 15500
Screw Washer
141 2 1419 09228
Rating Plate
141 2 1749 02500
Foot
141 2 4219 15500
Screw Washer
141 2 4219 15500
Screw Washer
141 2 1749 02500
Foot
141 2 1749 02500
Foot
+BRTS-B 3.0x6
141 0 1119 62200
Panel Front Assy
+BRTS-B 3.0x6
141 2 1749 02500
Foot
+BRTS-B
3.0x10
+BRTS-B 3.0x6
+BRTS-B
3.0x10
131 2 1601 50400
Knob
+BRTS-B 3.0x10
141 2 2449 25901
Panel Sheet
131 2 1601 50400
Knob
+BRTS-B 3.0x10
141 2 1639 33200
Knob
+BRTS-B 3.0x10

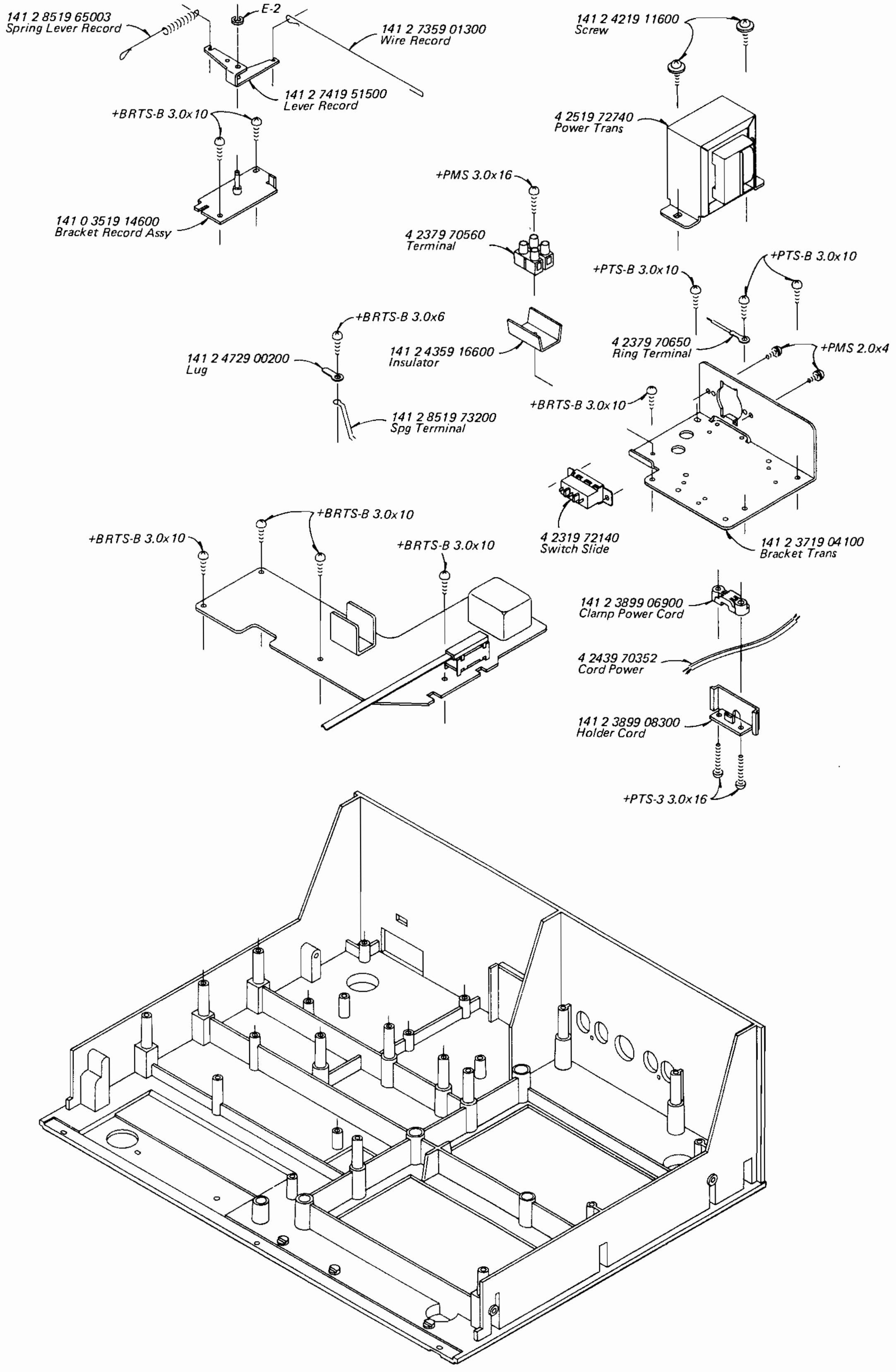
EXPLODED VIEW (Continued)

(Cabinet Chassis -1)


141 0 1249 14302
Lid Cassette Assy
+BRTS-B 3.0x10
+BRTS-B 3.0x10
141 2 4629 00700
Flexible Wire
+BRTS-B 3.0x10
141 2 4539 16200
Washer
4 2319 73360
Slide Lever Switch
+BRTS-B 3.0x10
4 2359 73902
1P Jack
141 2 4539 16200
Washer
+BRTS-B 3.0x10
+PMS C SW
3.0x6
4 2319 72910
Lever Power Switch
+PMS C SW
3.0x6
141 2 1149 19901
Panel Chassis
+PMS C SW 3.0x6
4 2359 73903
1P Jack
+PMS C SW 3.0x5
+PMS C SW 3.0x6
4 1329 75030
Circuit Lamp
+BRTS-B 3.0x10
+BTS-2 2.6x6
141 2 3119 10400
Chassis Cabinet
4 5119 70409
Indicator
141 2 4469 25500
Cushion
4 5119 70409
Indicator
+PTS-2 3.0x10
+BRTS-B 3.0x10
+BRTS-B 3.0x10
141 2 1539 11101
Dress Meter
+BRTS-B 3.0x10
+PMS C PW 3.0x6
+PMS C PW 3.0x6
+BRTS-B
3.0x10
+BRTS-B 3.0x10

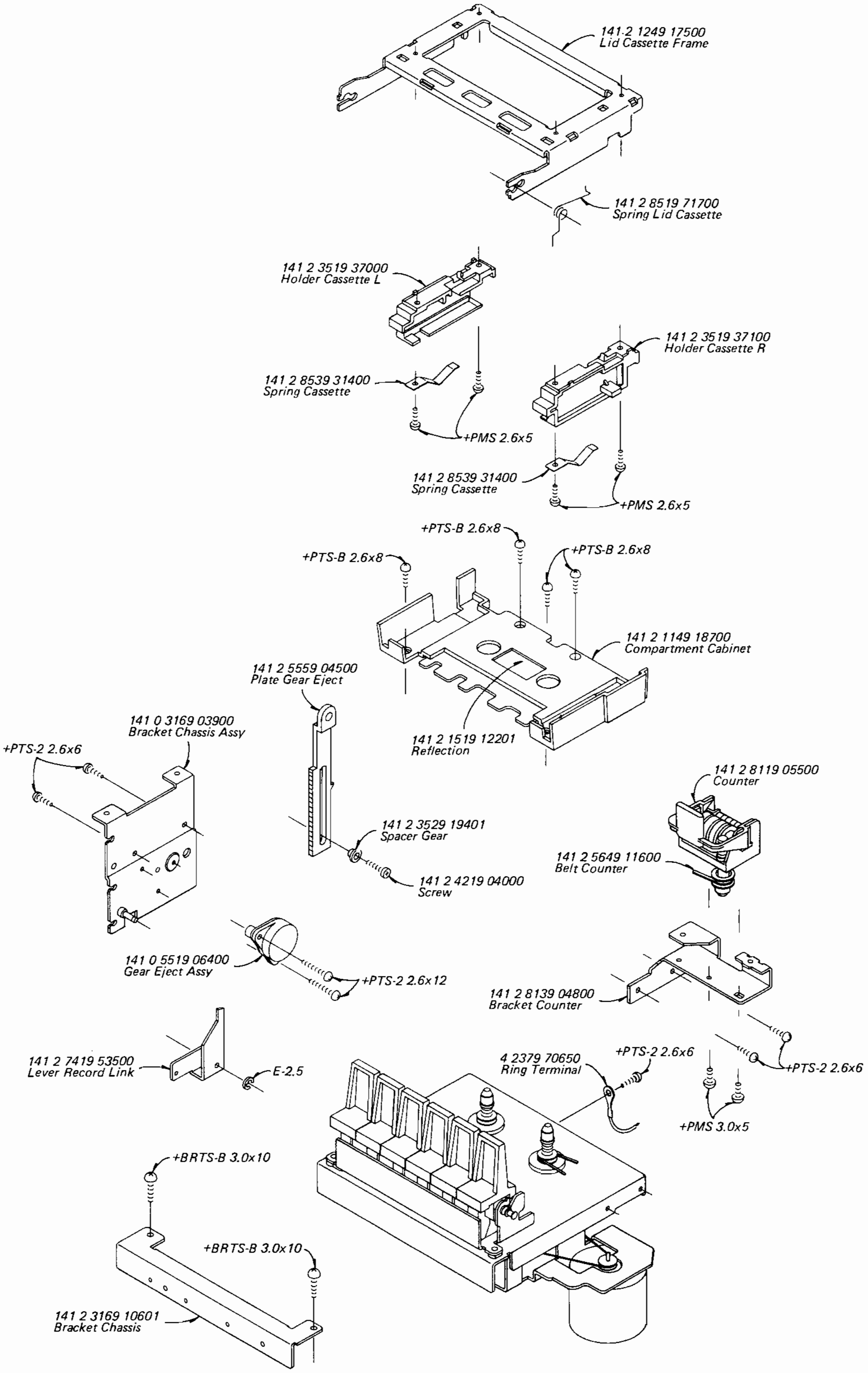
EXPLODED VIEW (Continued)

(Cabinet Chassis -2)


141 2 8519 65003
Spring Lever Record
E-2
141 2 7359 01300
Wire Record
141 2 7419 51500
Lever Record
+BRTS-B 3.0x10
141 0 3519 14600
Bracket Record Assy
141 2 4219 11600
Screw
4 2519 72740
Power Trans
+PMS 3.0x16
4 2379 70560
Terminal
+PTS-B 3.0x10
+PTS-B 3.0x10
+BRTS-B 3.0x6
141 2 4359 16600
Insulator
4 2379 70650
Ring Terminal
+PMS 2.0x4
141 2 4729 00200
Lug
141 2 8519 73200
Spg Terminal
+BRTS-B 3.0x10
+BRTS-B 3.0x10
+BRTS-B 3.0x10
+BRTS-B 3.0x10
4 2319 72140
Switch Slide
141 2 3719 04100
Bracket Trans
141 2 3899 06900
Clamp Power Cord
4 2439 70352
Cord Power
141 2 3899 08300
Holder Cord
+PTS-3 3.0x16

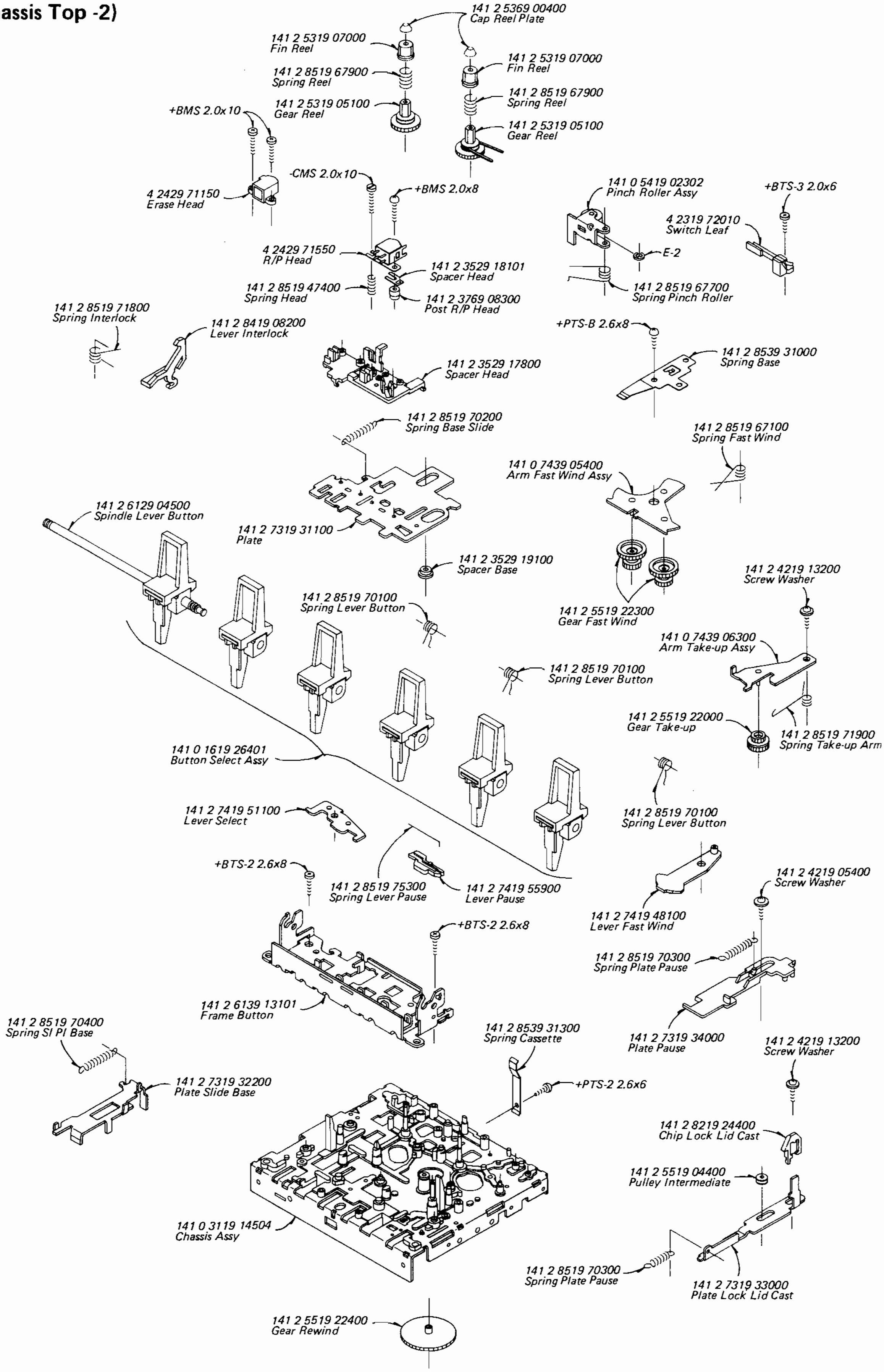
EXPLODED VIEW (Continued)

(Chassis Top -1)


141-2 1249 17500
Lid Cassette Frame
141 2 8519 71700
Spring Lid Cassette
141 2 3519 37000
Holder Cassette L
141 2 3519 37100
Holder Cassette R
141 2 8539 31400
Spring Cassette
+PMS 2.6x5
141 2 8539 31400
Spring Cassette
+PMS 2.6x5
+PTS-B 2.6x8
+PTS-B 2.6x8
+PTS-B 2.6x8
141 2 1149 18700
Compartment Cabinet
141 2 5559 04500
Plate Gear Eject
141 0 3169 03900
Bracket Chassis Assy
+PTS-2 2.6x6
141 2 1519 12201
Reflection
141 2 8119 05500
Counter
141 2 3529 19401
Spacer Gear
141 2 5649 11600
Belt Counter
141 2 4219 04000
Screw
141 0 5519 06400
Gear Eject Assy
+PTS-2 2.6x12
141 2 8139 04800
Bracket Counter
141 2 7419 53500
Lever Record Link
E-2.5
4 2379 70650
Ring Terminal
+PTS-2 2.6x6
+PTS-2 2.6x6
+PMS 3.0x5
+BRTS-B 3.0x10
+BRTS-B 3.0x10
141 2 3169 10601
Bracket Chassis

EXPLODED VIEW (Continued)

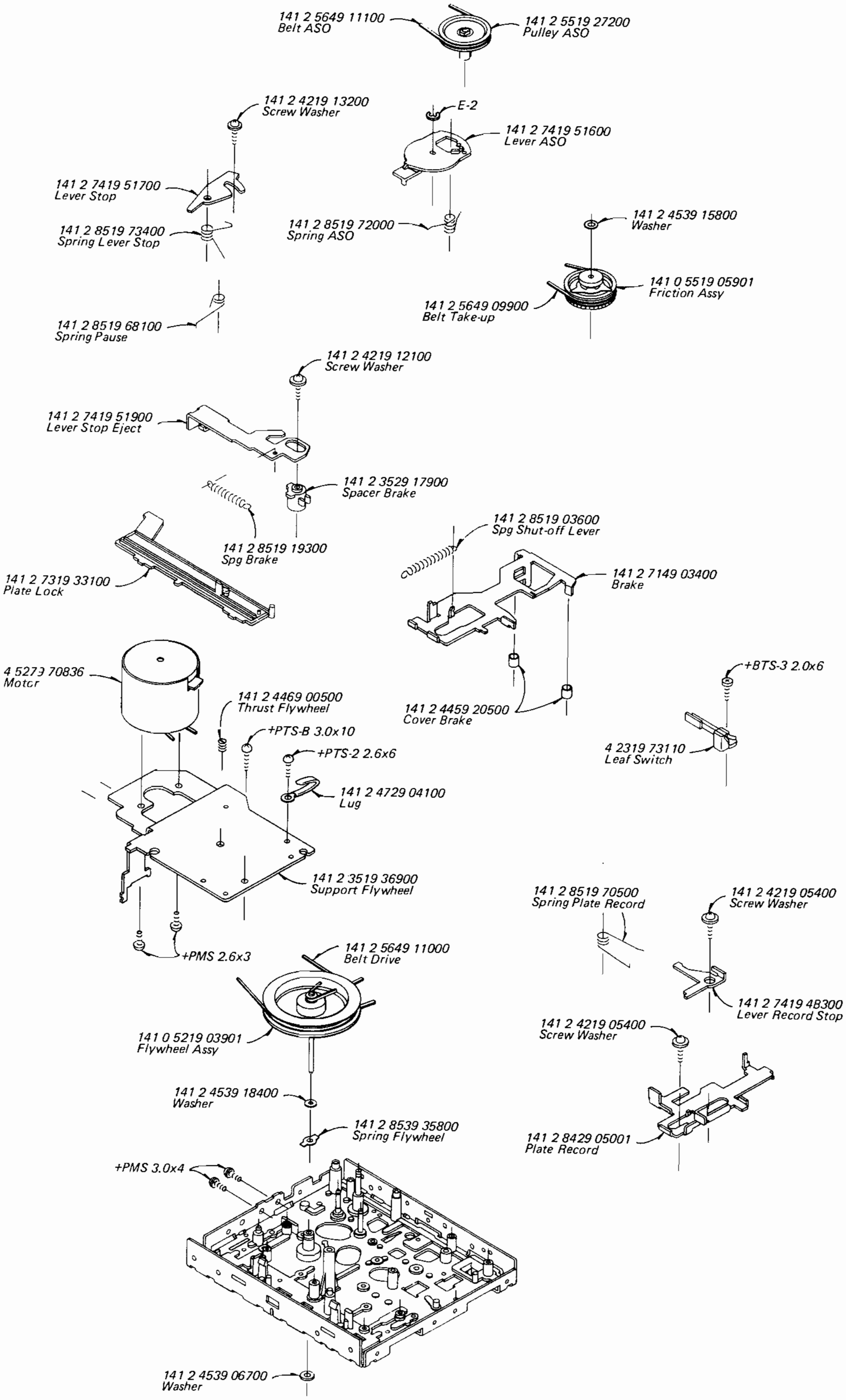
(Chassis Top -2)



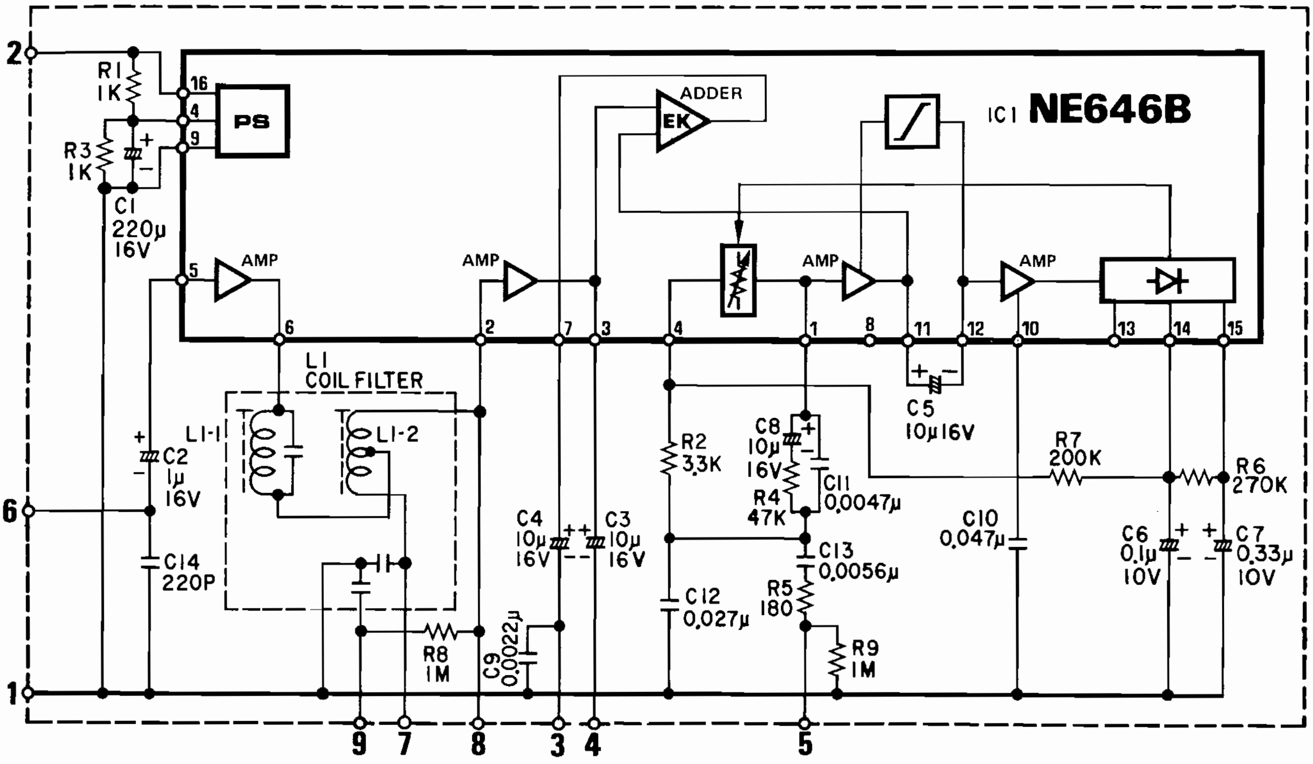
141 2 5369 00400
Cap Reel Plate
141 2 5319 07000
Fin Reel
141 2 8519 67900
Spring Reel
141 2 5319 05100
Gear Reel
141 2 5319 07000
Fin Reel
141 2 8519 67900
Spring Reel
141 2 5319 05100
Gear Reel
+BMS 2.0x10
-CMS 2.0x10
+BMS 2.0x8
4 2429 71150
Erase Head
141 0 5419 02302
Pinch Roller Assy
+BTS-3 2.0x6
4 2319 72010
Switch Leaf
E-2
4 2429 71550
R/P Head
141 2 3529 18101
Spacer Head
141 2 8519 47400
Spring Head
141 2 3769 08300
Post R/P Head
141 2 8519 67700
Spring Pinch Roller
141 2 8519 71800
Spring Interlock
141 2 8419 08200
Lever Interlock
+PTS-B 2.6x8
141 2 8539 31000
Spring Base
141 2 3529 17800
Spacer Head
141 2 8519 70200
Spring Base Slide
141 2 8519 67100
Spring Fast Wind
141 0 7439 05400
Arm Fast Wind Assy
141 2 6129 04500
Spindle Lever Button
141 2 7319 31100
Plate
141 2 3529 19100
Spacer Base
141 2 4219 13200
Screw Washer
141 2 8519 70100
Spring Lever Button
141 2 5519 22300
Gear Fast Wind
141 0 7439 06300
Arm Take-up Assy
141 2 8519 70100
Spring Lever Button
141 2 5519 22000
Gear Take-up
141 2 8519 71900
Spring Take-up Arm
141 0 1619 26401
Button Select Assy
141 2 7419 51100
Lever Select
141 2 8519 70100
Spring Lever Button
+BTS-2 2.6x8
141 2 8519 75300
Spring Lever Pause
141 2 7419 55900
Lever Pause
141 2 4219 05400
Screw Washer
141 2 7419 48100
Lever Fast Wind
+BTS-2 2.6x8
141 2 8519 70300
Spring Plate Pause
141 2 6139 13101
Frame Button
141 2 8519 70400
Spring Sl Pl Base
141 2 8539 31300
Spring Cassette
141 2 7319 34000
Plate Pause
141 2 4219 13200
Screw Washer
141 2 7319 32200
Plate Slide Base
+PTS-2 2.6x6
141 2 8219 24400
Chip Lock Lid Cast
141 2 5519 04400
Pulley Intermediate
141 0 3119 14504
Chassis Assy
141 2 8519 70300
Spring Plate Pause
141 2 7319 33000
Plate Lock Lid Cast
141 2 5519 22400
Gear Rewind

EXPLODED VIEW (Continued)

(Chassis Bottom)

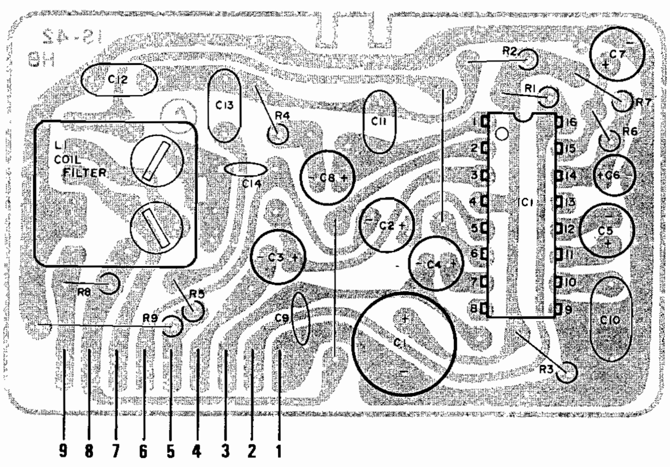

141 2 5649 11100
Belt ASO
141 2 5519 27200
Pulley ASO
141 2 4219 13200
Screw Washer
E-2
141 2 7419 51600
Lever ASO
141 2 7419 51700
Lever Stop
141 2 8519 73400
Spring Lever Stop
141 2 8519 72000
Spring ASO
141 2 4539 15800
Washer
141 0 5519 05901
Friction Assy
141 2 5649 09900
Belt Take-up
141 2 8519 68100
Spring Pause
141 2 4219 12100
Screw Washer
141 2 7419 51900
Lever Stop Eject
141 2 3529 17900
Spacer Brake
141 2 8519 03600
Spg Shut-off Lever
141 2 8519 19300
Spg Brake
141 2 7149 03400
Brake
141 2 7319 33100
Plate Lock
4 5273 70836
Motor
141 2 4469 00500
Thrust Flywheel
+PTS-B 3.0x10
141 2 4459 20500
Cover Brake
+BTS-3 2.0x6
+PTS-2 2.6x6
4 2319 73110
Leaf Switch
141 2 4729 04100
Lug
141 2 3519 36900
Support Flywheel
141 2 8519 70500
Spring Plate Record
141 2 4219 05400
Screw Washer
+PMS 2.6x3
141 2 5649 11000
Belt Drive
141 2 7419 48300
Lever Record Stop
141 2 4219 05400
Screw Washer
141 0 5219 03901
Flywheel Assy
141 2 4539 18400
Washer
141 2 8539 35800
Spring Flywheel
141 2 8429 05001
Plate Record
+PMS 3.0x4
141 2 4539 06700
Washer

DOLBY NR UNIT SCHEMATIC DIAGRAM

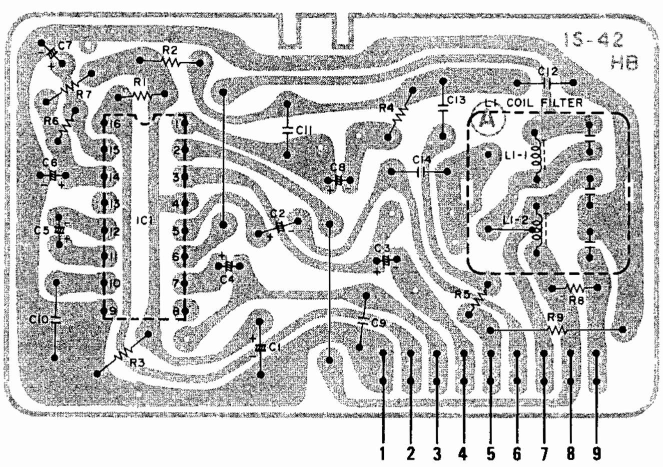

IC1 NE646B
PS
ADDER
EK
AMP
AMP
AMP
AMP
R1 1K
R3 1K
C1 220µ 16V
C2 1µ 16V
C14 220P
L1 COIL FILTER
L1-1
L1-2
R8 1M
C9 0.0022µ
C4 10µ 16V
C3 10µ 16V
R2 3.3K
C12 0.027µ
C8 10µ 16V
R4 47K
C11 0.0047µ
C13 0.0056µ
R5 180
R9 1M
C5 10µ 16V
C10 0.047µ
R7 200K
R6 270K
C6 0.1µ 10V
C7 0.33µ 10V
16
4
9
5
6
2
7
3
4
1
8
11
12
10
13
14
15
2
6
1
9
7
8
3
4
5

DOLBY NR UNIT P.C.BOARD

(Top View)

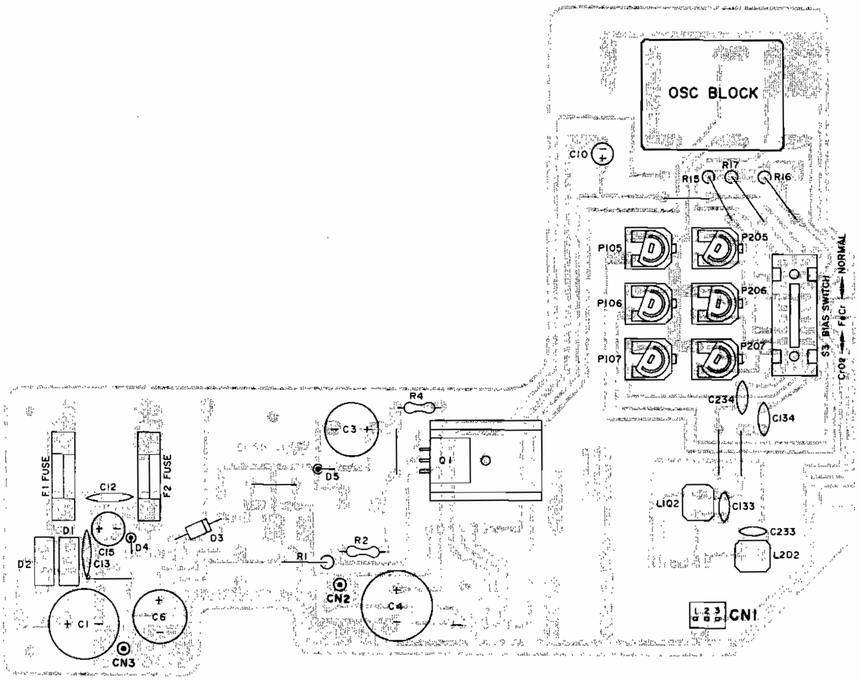

IS-42 HB
C12
C13
R4
C11
R2
R1
C7
R7
R6
L1 COIL FILTER
C14
C8
C6
C2
IC1
C5
C3
C4
C10
R8
R5
R9
C9
C1
R3
9
8
7
6
5
4
3
2
1

(Bottom View)

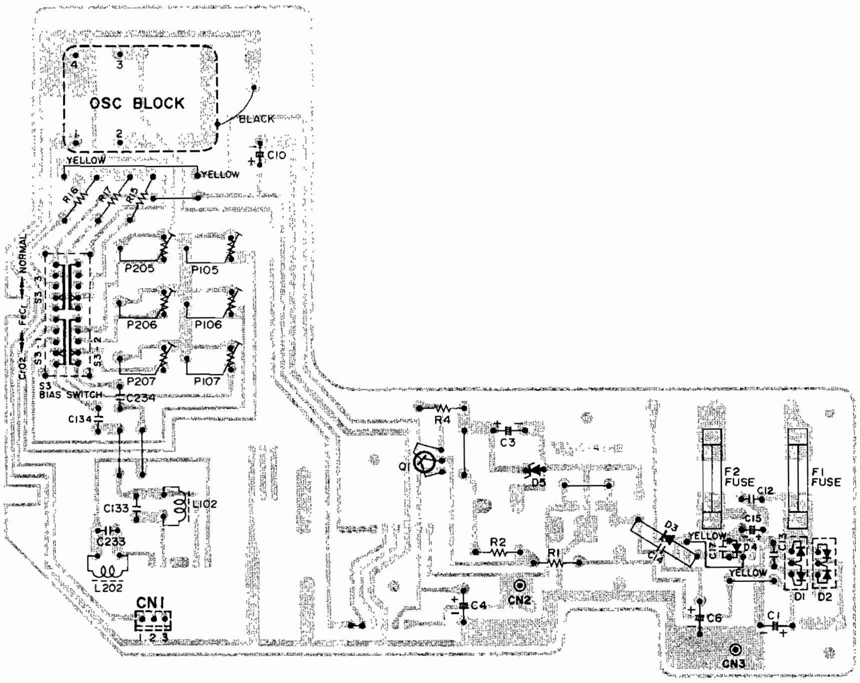

IS-42 HB
C7
R2
R1
R7
R6
C6
C5
C10
IC1
C11
C8
R4
C13
C12
L1 COIL FILTER
C14
L1-1
L1-2
C2
C4
C3
C9
C1
R3
R5
R8
R9
1
2
3
4
5
6
7
8
9

POWER SUPPLY P.C.BOARD

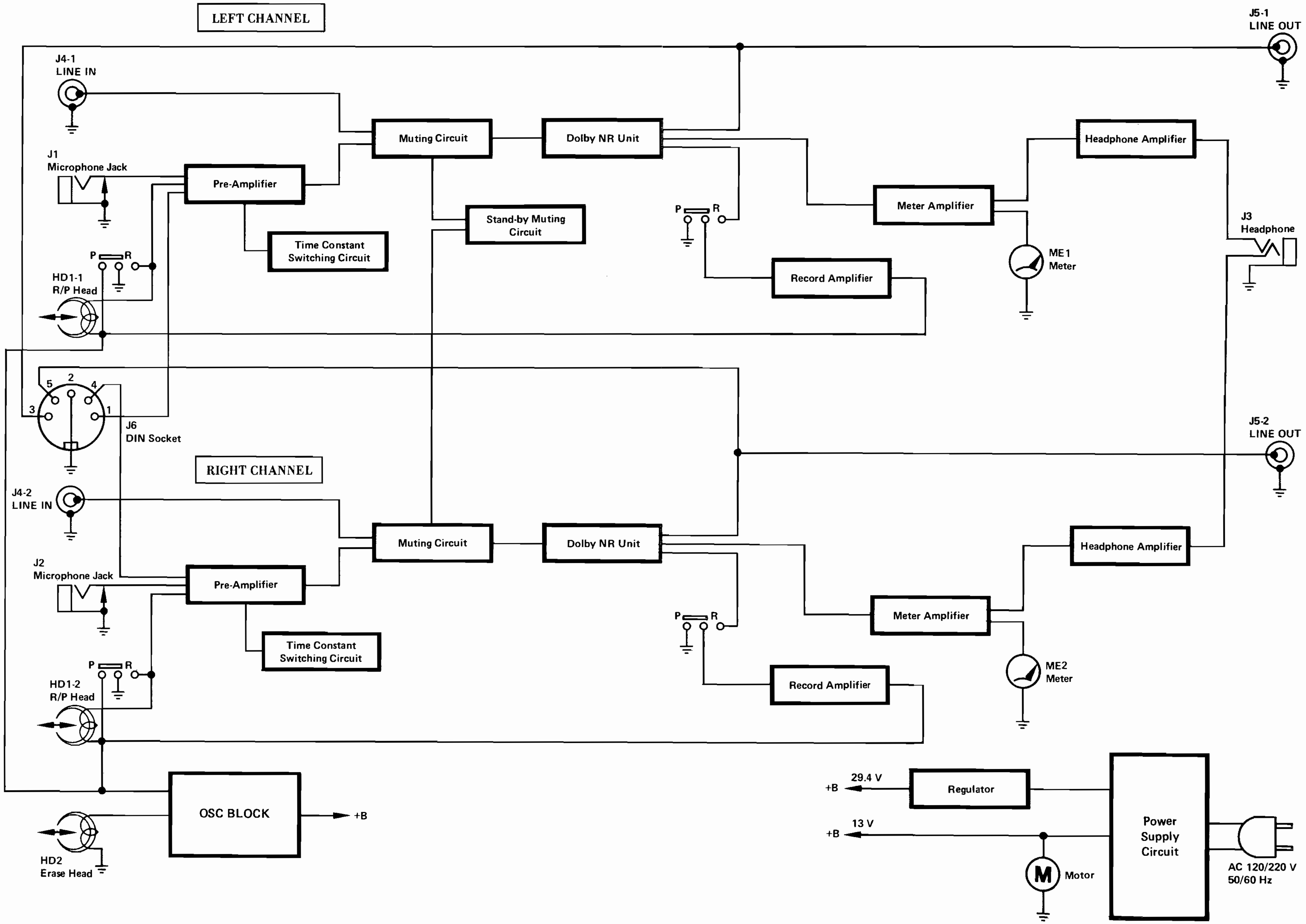
(Top View)


OSC BLOCK
C10
R15
R17
R16
P105
P205
P106
P206
P107
P207
S3 BIAS SWITCH
NORMAL
FeCr
CrO2
C234
C134
L102
C133
C233
L202
CN1
1 2 3
R4
C3
Q1
D5
F1 FUSE
F2 FUSE
C12
D1
D4
C15
C13
D2
D3
R2
R1
CN2
C4
C1
C6
CN3

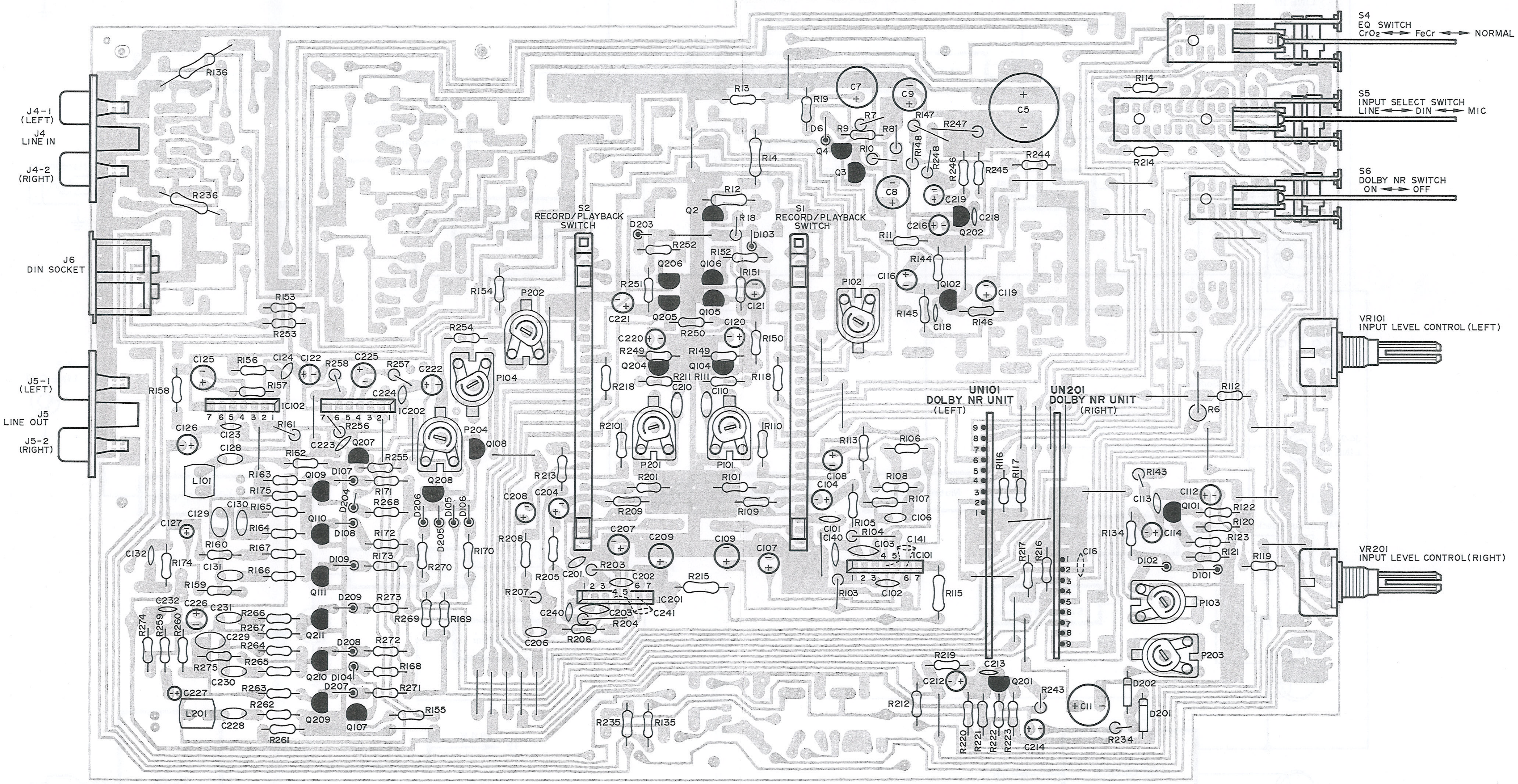
(Bottom View)


OSC BLOCK
4
3
1
2
BLACK
YELLOW
C10
YELLOW
R16
R17
R15
NORMAL
FeCr
CrO2
S3-3
S3-1
S3
BIAS SWITCH
P205
P105
P206
P106
P207
P107
C234
C134
C133
L102
C233
L202
CN1
1 2 3
R4
C3
Q1
D5
R2
R1
C4
CN2
D3
YELLOW
D4
C15
C12
F2 FUSE
F1 FUSE
YELLOW
D1
D2
C6
C1
CN3

BLOCK DIAGRAM

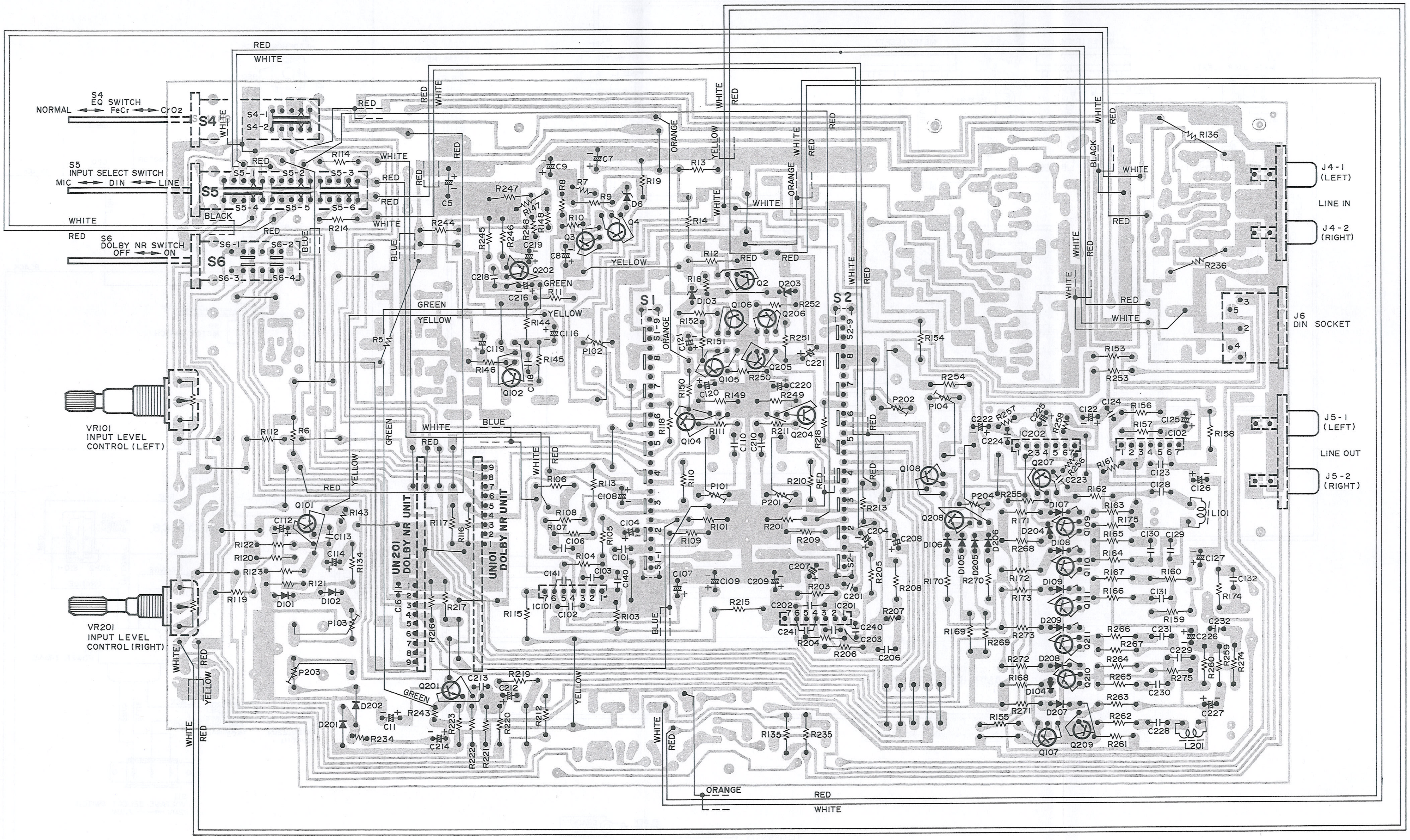

LEFT CHANNEL
J4-1
LINE IN
J1
Microphone Jack
Pre-Amplifier
Muting Circuit
Dolby NR Unit
Stand-by Muting Circuit
Time Constant Switching Circuit
P
R
HD1-1
R/P Head
Record Amplifier
Meter Amplifier
Headphone Amplifier
ME1
Meter
J5-1
LINE OUT
J3
Headphone
5
2
4
3
1
J6
DIN Socket
RIGHT CHANNEL
J4-2
LINE IN
J2
Microphone Jack
Pre-Amplifier
Muting Circuit
Dolby NR Unit
Time Constant Switching Circuit
P
R
HD1-2
R/P Head
Record Amplifier
Meter Amplifier
Headphone Amplifier
ME2
Meter
J5-2
LINE OUT
OSC BLOCK
+B
HD2
Erase Head
+B
29.4 V
Regulator
+B
13 V
M
Motor
Power Supply Circuit
AC 120/220 V
50/60 Hz

AMPLIFIER P.C.BOARD (Top View)

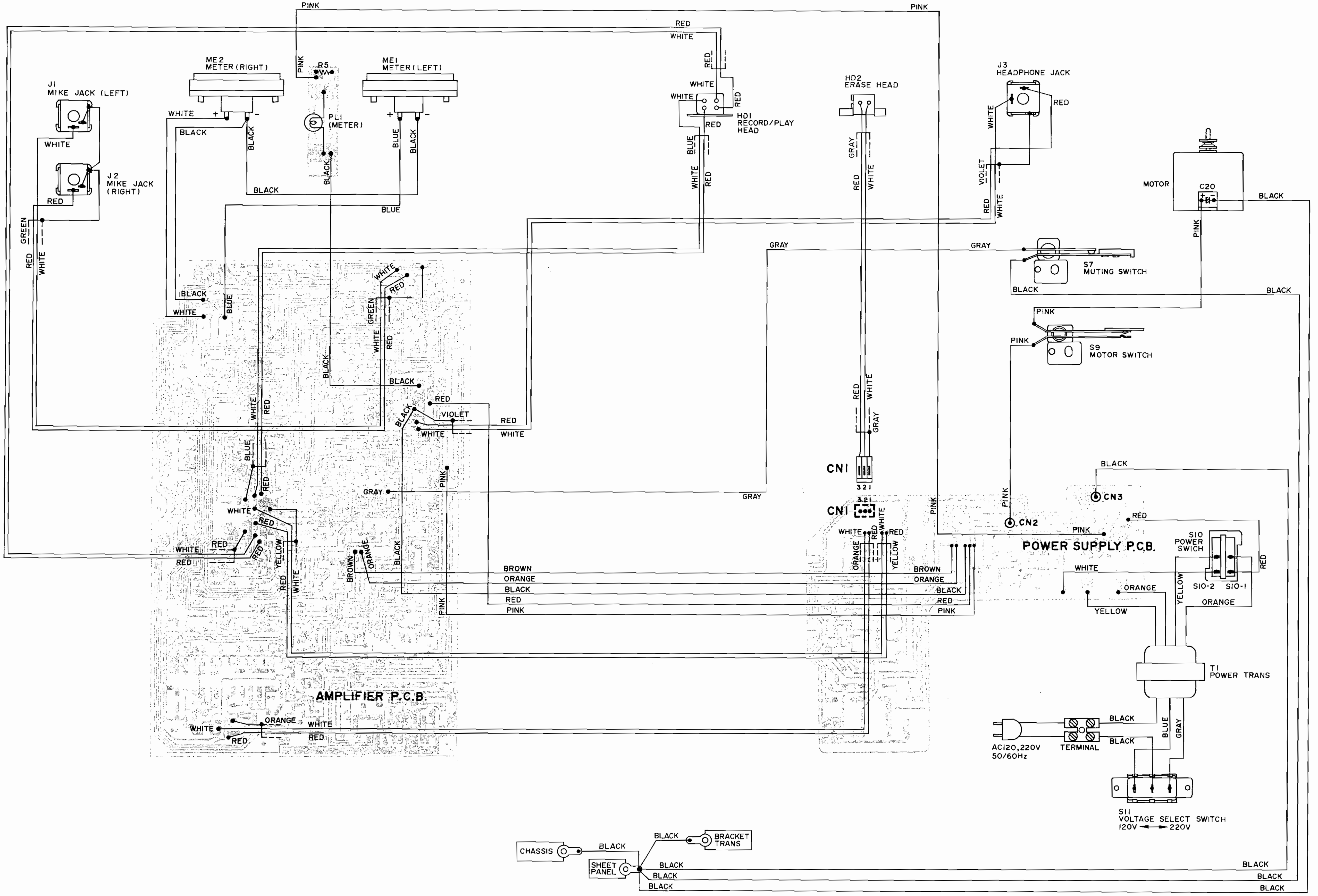


J4-1 (LEFT)
J4 LINE IN
J4-2 (RIGHT)
J6 DIN SOCKET
J5-1 (LEFT)
J5 LINE OUT
J5-2 (RIGHT)
S4 EQ SWITCH
CrO2 ◄► FeCr ◄► NORMAL
S5 INPUT SELECT SWITCH
LINE ◄► DIN ◄► MIC
S6 DOLBY NR SWITCH
ON ◄► OFF
VR101 INPUT LEVEL CONTROL (LEFT)
VR201 INPUT LEVEL CONTROL (RIGHT)
S2 RECORD/PLAYBACK SWITCH
S1 RECORD/PLAYBACK SWITCH
UN101 DOLBY NR UNIT (LEFT)
UN201 DOLBY NR UNIT (RIGHT)
R136
R236
R153
R253
R154
P202
R254
P104
C125
R156
C124
C122
R258
C225
R257
C222
R158
R157
C224
IC102
IC202
7 6 5 4 3 2 1
7 6 5 4 3 2 1
C126
C123
R161
C223
R256
Q207
P204
Q108
C128
R162
R255
L101
R163
Q109
D107
Q208
R175
R171
C130
R165
D204
R268
D206
D105
D106
C129
Q110
C127
R164
D108
R172
D205
R160
R167
R173
R170
C132
R174
C131
R166
D109
R270
R159
Q111
D209
R273
C232
C226
C231
R266
R269
R169
R274
R259
R260
R267
Q211
C229
R264
D208
R272
R275
R265
R168
C230
Q210
D104
R263
D207
R271
C227
R262
R155
L201
C228
Q209
Q107
R261
R13
R19
C7
C9
C5
D6
R9
R7
R8
R147
R247
Q4
R10
R148
R248
R246
R245
R244
R14
Q3
C8
R12
C219
C218
Q2
R18
D203
D103
R11
C216
Q202
R252
R152
R144
Q206
Q106
R151
R251
C116
Q102
C119
P102
C221
Q205
Q105
C121
R145
C118
R146
R250
C120
C220
R150
R249
R149
Q204
Q104
R211
R111
R118
R218
C210
C110
R210
R110
P201
P101
R201
R101
R213
C208
C204
R209
R109
C207
C209
C109
C107
R208
R205
C201
R203
C202
R215
R207
1 2 3
4 5
6 7
IC201
C240
C203
C241
R204
C206
R206
R235
R135
R113
R106
C108
C104
R108
R107
R105
C106
C101
C140
R104
C103
C141
IC101
4 5
6 7
1 2 3
R103
C102
R115
R116
R117
R217
R216
C16
R114
R214
R112
R6
R143
C113
C112
Q101
R122
R120
R134
C114
R123
R121
R119
D102
D101
P103
P203
R219
C213
C212
Q201
R243
C11
D202
D201
R212
R220
R221
R222
R223
C214
R234
9 8 7 6 5 4 3 2 1
1 2 3 4 5 6 7 8 9

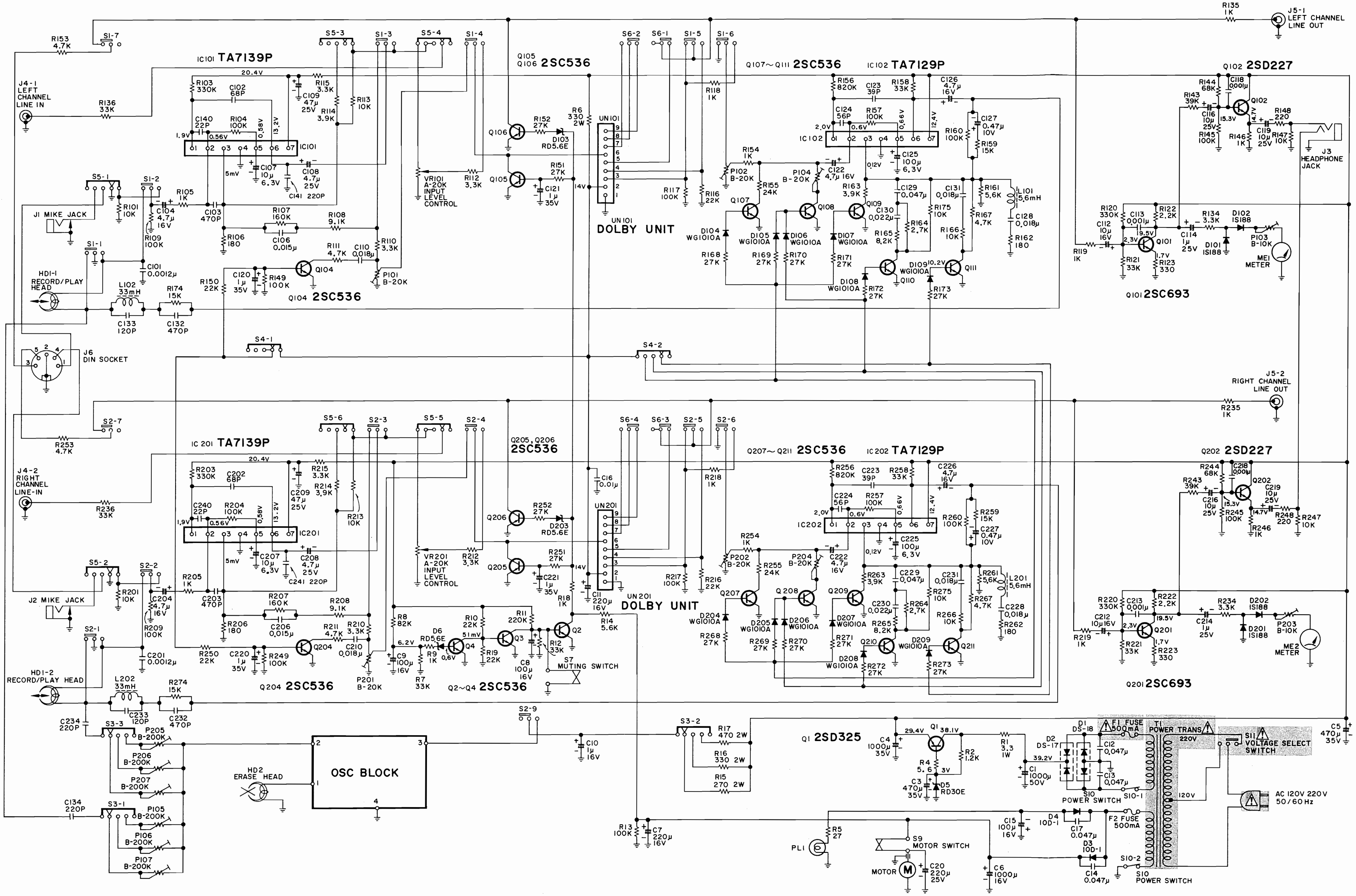
AMPLIFIER P.C.BOARD(Bottom View)


S4
EQ SWITCH
NORMAL ◄► FeCr ◄► CrO2
S5
INPUT SELECT SWITCH
MIC ◄► DIN ◄► LINE
S6
DOLBY NR SWITCH
OFF ◄► ON
VR101
INPUT LEVEL
CONTROL (LEFT)
VR201
INPUT LEVEL
CONTROL (RIGHT)
J4-1
(LEFT)
LINE IN
J4-2
(RIGHT)
J6
DIN SOCKET
J5-1
(LEFT)
LINE OUT
J5-2
(RIGHT)
UN201
DOLBY NR UNIT
UN101
DOLBY NR UNIT
S1
S2
IC101
IC102
IC201
IC202
RED
WHITE
BLACK
BLUE
GREEN
YELLOW
ORANGE

WIRING DIAGRAM


PINK
PINK
RED
WHITE
ME2
METER (RIGHT)
R5
ME1
METER (LEFT)
J1
MIKE JACK (LEFT)
WHITE
BLACK
PL1
(METER)
BLACK
BLUE
BLACK
J2
MIKE JACK
(RIGHT)
RED
GREEN
WHITE
HD1
RECORD/PLAY
HEAD
BLUE
HD2
ERASE HEAD
GRAY
J3
HEADPHONE JACK
VIOLET
MOTOR
C20
BLACK
S7
MUTING SWITCH
S9
MOTOR SWITCH
GRAY
YELLOW
CN1
3 2 1
CN2
CN3
POWER SUPPLY P.C.B.
S10
POWER
SWICH
S10-2
S10-1
ORANGE
BROWN
T1
POWER TRANS
AC120,220V
50/60Hz
TERMINAL
S11
VOLTAGE SELECT SWITCH
120V ← → 220V
AMPLIFIER P.C.B.
CHASSIS
SHEET
PANEL
BRACKET
TRANS

SCHEMATIC DIAGRAM



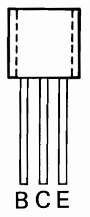
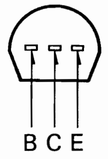
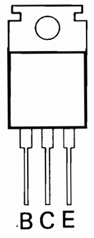
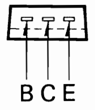
J4-1 LEFT CHANNEL LINE IN
J4-2 RIGHT CHANNEL LINE-IN
J1 MIKE JACK
J2 MIKE JACK
HD1-1 RECORD/PLAYBACK HEAD
HD1-2 RECORD/PLAY HEAD
HD2 ERASE HEAD
J6 DIN SOCKET
IC101 TA7139P
IC201 TA7139P
IC102 TA7129P
IC202 TA7129P
Q104 2SC536
Q204 2SC536
Q105 Q106 2SC536
Q205, Q206 2SC536
Q107~Q111 2SC536
Q207~Q211 2SC536
Q2~Q4 2SC536
Q101 2SC693
Q201 2SC693
Q102 2SD227
Q202 2SD227
Q1 2SD325
UN101 DOLBY UNIT
UN201 DOLBY UNIT
VR101 A-20K INPUT LEVEL CONTROL
VR201 A-20K INPUT LEVEL CONTROL
S7 MUTING SWITCH
OSC BLOCK
J5-1 LEFT CHANNEL LINE OUT
J5-2 RIGHT CHANNEL LINE OUT
J3 HEADPHONE JACK
ME1 METER
ME2 METER
F1 FUSE 500mA
F2 FUSE 500mA
T1 POWER TRANS
S11 VOLTAGE SELECT SWITCH
S10 POWER SWITCH
S9 MOTOR SWITCH
MOTOR
PL1
AC 120V 220V 50/60Hz

No.	Name	Position	No.	Name	Position	No.	Name	Position
S1	RECORD/PLAYBACK Switch	PLAYBACK	S5	INPUT SELECT Switch	LINE	S10	POWER Switch	OFF
S2	RECORD/PLAYBACK Switch	PLAYBACK	S6	DOLBY NR Switch	ON	S11	VOLTAGE SELECT Switch	220V
S3	BIAS Switch	CrO2	S7	MUTING Switch	CLOSE			
S4	EQ Switch	CrO2	S9	MOTOR Switch	OFF			

PRODUCT SAFETY NOTICE

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN A COMPONENT REPLACEMENT IS MADE IN ANY AREA OF AN UNIT. COMPONENTS INDICATED BY A MARK ⚠ IN THIS SCHEMATIC DIAGRAM SHOW COMPONENTS WHOSE VALUE HAS SPECIAL SIGNIFICANCE TO PRODUCT SAFETY. IT IS PARTICULARLY RECOMMENDED THAT ONLY PARTS SPECIFIED ON THE ATTACHED PARTS LIST BE USED FOR COMPONENT REPLACEMENT POINTED OUT BY THE MARK.

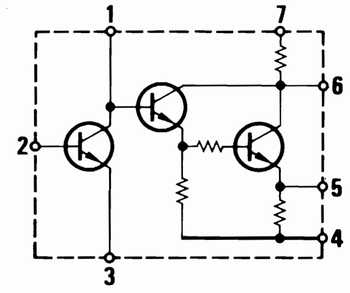
IC & TRANSISTOR LEAD IDENTIFICATION

FRONT VIEW	BOTTOM VIEW	TRANSISTOR
		2SC536 2SC693 2SD227
		2SD325

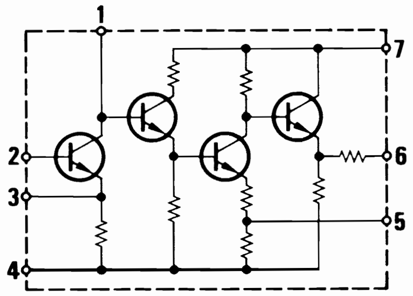
TERMINAL NAME

B⇒ BASE
C⇒ COLLECTOR
E⇒ EMITTER

IC TA7129 EQUIVALENT CIRCUIT

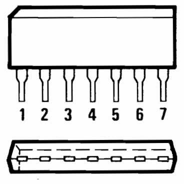


IC TA7139 EQUIVALENT CIRCUIT



FRONT & BOTTOM VIEWS

TA7129
TA7139



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